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ORGANISATIONAL ROLES IN FARMER PARTICIPATORY RESEARCH AND EXTENSION: LESSONS FROM THE LAST DECADE

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Experience over the last decade suggests that participatory approaches to technical change are falling into two broad camps: public sector approaches are generally part of a client orientation strategy and rarely aim to do more than enhance the functions *of technology design and delivery. By contrast, NGO approaches generally aim for the* empowerment *of weaker groups. This paper reviews the complementarities and tensions between the approaches, and suggests ways forward.*

Policy conclusions

- Donors, NGOs, and others have developed a wide range of approaches to participation over the last decade. The need now is not for yet more of these, but for support to governments to implement even the most functional types of participation on a wide scale.
- To facilitate this, substantial reform is needed within government, to stimulate the market provision of technology services to better off farmers, and allow public sector resources to be switched into dealing with the multi-faceted problems of difficult areas.
- NGOs mandate themselves to concentrate substantial resources in a small number of villages, often in difficult areas. This favours the development of innovative, empowering approaches, but at levels of unit cost beyond the reach of the public sector. Wide-scale replicability should be a key design criterion for any future approaches developed by NGOs or 'special projects'.
- Stronger participation in difficult areas depends ultimately on widespread basic literacy and numeracy skills, and these remain the responsibility of government. But incomes will first have to rise before the very poor can afford to let children go to school.
- NGOs have taken the moral high ground in their views of what constitutes 'participation', as has the public sector in respect of what constitutes 'sound' technology, or transparent financial reporting. For difficult areas, there is potential advantage in partnerships between NGOs and government which draws on the strengths of both sides. But this can only happen if each moderates its prejudices.

- Such partnerships also rely on agreed and transparent monitoring of the process of interaction.
- Donors can usefully help in testing a range of approaches to multi-agency partnership.

Introduction

The movement towards stronger participation by farmers in agricultural research and extension is fuelled by a growing realisation that the socio-economic and agro-ecological conditions of (especially low-income) farmers are complex, diverse and risk-prone, and that conventional approaches, based on research station trials followed by unidirectional technology transfer, are unlikely to be fruitful. Close engagement with farmers through the cycle of diagnosis, experimentation and dissemination increases understanding of these conditions, of the opportunities and constraints farmers face, and of their own technical knowledge. This enhances the prospects that externally-promoted technologies will be adoptable, locally owned, and environmentally and institutionally sustainable. It is also likely to enhance the efficiency of the technology development processes. Reviewing a decade of work on farmer participation in research and extension (FPR/E) this paper argues that, though FPR/E does indeed have an important role, over-optimistic expectations have been generated through unclear thinking about: the underlying objectives of different kinds of participation; how participatory approaches fit into other modes of client orientation; and the different roles various kinds of organisation can play in promoting participation. A major unresolved issue is the need to complement depth of participation with breadth of coverage. Inter-agency collaboration may hold some, but not all of the solutions to this dilemma.

What is participation?

'Participation' is becoming a devalued term. Partly in response to donor exhortation, much of the rhetoric, and occasionally the form, of participation are deployed without the substance. For present purposes, participation conveys that the intended clients of agricultural research and extension (R&E) have some influence over decisions about the focus and content of R&E. Public sector, private commercial and private non-profit organisations involved in R&E serve a wide range of clients, not only low-income farmers, or farmers in general, but also: processing industries, other scientists, and government departments concerned for example with land rehabilitation. With all types of client, the key interface is between what 'science' has to offer and what clients require, and numerous ways can be identified in which clients participate with different technology 'suppliers' in managing this interface. However, our interest here is in a subset of types of research (applied and adaptive), of 'suppliers' (mainly public sector and NGOs), and of clients (farmers). Even within these sub-sets it is clear that several different types of participation exist. Farmers in the middle and higher income ranges, for instance, may ‘participate' in R&E through the market by contracting advisory services or buying inputs incorporating new technologies. They may also exert pressure through lobby groups or by vocal response to the technologies offered during, for example, research station visits.

Thus, in the middle and higher income brackets farmers *themselves* are the driving force behind participation. But these farmers are highly articulate, operate in the economic and political mainstream, and tend to specialise in a small number of market-oriented commodities with few of the complex interactions among farming subsystems characteristic of the more difficult areas. Also, their farming is largely individualistic: few activities require group action of the types outlined below. For these farming situations, the functions of public sector research organisations are easily defined: providing that they consult farmers through discussion and farm visits, and manage the project cycle of research in an efficient and responsive fashion, it should not be difficult for them to deliver relevant and adoptable technologies.

The situation of low-income farmers is altogether more complex. In biological and physical terms, it is characterised by:

1. poor infrastructure;
2. complex, diverse and risk-prone agro-ecological conditions;
3. strong interactions between crop, livestock, tree and fodder components of the farming system, and between on- and off-farm resource management.

   In socio-economic terms, by:

4. a degree of political and economic marginalisation, implying limited access to markets;
5. diverse socio-economic conditions: some households being fully committed to farming; off-farm employment being important for others; and traditional or newer 'safety nets' compensating for the limited labour availability of the lowest income households;
6. the importance of group action in some areas for traditional practices (e.g. exchange labour) and also for soil and water conservation through the management of common pool resources;
7. a high proportion of female-headed households and of female farm labour;
8. strong local knowledge underpinning traditional farming practices.

These characteristics help to define the scope of participation in three ways: first, low-income farmers are less likely to 'lead' participation, either via the market or by making vocal demands; second, their agro-ecological conditions are difficult to replicate on research stations – effort is required by researchers to understand these conditions and to experiment on-farm *with farmers*; third, farmers may need support from outside agencies to identify and articulate their priorities for technical change and to help their management of common pool resources to become established.

We argue below that these differences between well-endowed and difficult areas have helped to determine the approaches taken to FPR/E in each (for a summary, see Table 1).

Table 1. Characteristics of successful participatory approaches across the range of farm income levels

Income Distribution of Farm Households	Biophysical, social and economic characteristics of farming	Characteristics of participatory approaches that have worked	Where next?
Highest decile	Small number of commodities; highly intensive production; few systems interactions. Individualistic market-oriented production; joint action may be important for e.g. water management and/or input/output marketing.	Approaches by public sector focused on improving technology delivery functions, akin simply to stronger client orientation. Much assisted by farmers' high self-confidence and ability to articulate needs.	Need for public sector to put in place preconditions for efficient functioning of markets for new inputs and advice, to regulate these as necessary, and to withdraw to technology spheres (health, safety, environment) unlikely to be addressed by private sector.
Lowest decile	Mainly subsistence-oriented; large number of usable products; strong systems interactions, especially between on- and off-farm resources (trees, fodder); joint action important for articulating demands and for common pool resource management; also for traditional practices (e.g. exchange labour). Much reliance on part-time farming, seasonal migration etc in lower deciles, and on 'safety nets' in the lowest.	Small-scale, resource-intensive approaches, often by NGOs, focusing on empowerment of farmers to understand range of options for meeting their needs, and make demands on public sector as necessary. Support for joint action in common resource management, acquisition of inputs, etc.	Need for NGOs and public sector to devise ways of implementing empowering approaches on a wide scale, possibly including: NGO-government partnerships drawing on the strengths of each side; wider provision of basic literacy and numeracy skills; provision of incentives to public sector staff to work with low-income farmers in difficult areas. Recognition also needed of the importance of income sources other than farming

			to the poor, and of the limits to participation this may impose.

How do different kinds of organisation interpret and implement participation?

The pervasive public sector objective in adopting FPR/E has been to enhance the efficiency of research services in delivering adoptable and suitable technologies. Within this *functional context*, group approaches have occasionally been used, but most work has been with *individual* farmers. This approach has been moderately successful among articulate farmers enjoying good infrastructure in well-endowed areas, but less so in difficult areas.

By contrast with the *functional* objectives of public sector R&E, the underlying objective of participation for most NGOs is social, economic and political *empowerment* of the disadvantaged and marginalised. Almost universally, this is pursued by supporting the formation of groups capable of assessing their own needs and addressing them either directly or by creating demands on government. NGOs have used a range of group-building techniques, including awareness-creation, conflict resolution and the development of leadership skills. It is NGOs which have pioneered the use of Participatory Rural Appraisal techniques for needs diagnosis. In much of South Asia, they have taken the lead in promoting group management of common resources such as trees and grazing land, with a particular focus on watershed management approaches in undulating areas. NGOs' capacity for experimentation with and wide-scale dissemination of technology options remains limited. NGOs' claimed strengths in empowerment may, in some circumstances, be more a reflection of the ability of middle-class agencies to protect the poor and give them space to innovate, than of any substantive changes in the latter's own levels of awareness or power in society (Brown, 1994).

A further weakness is that many NGOs ignore the fact that farming makes only a marginal contribution to the livelihoods of many poor households. Some lack land and/or labour. For many, non-farming income sources and safety nets are important. This misperception generates a 'yeoman farmer' fallacy – a mistaken confidence among some NGOs that, given sustainable technical change through adequately participatory approaches, all can become successful farmers.

NGOs' pioneering of PRA has led some to equate PRA with FPR/E. There remain important distinctions, however. One is that PRA has been used almost exclusively at the *diagnostic stage* of the research cycle. PRA has powerfully demonstrated the ability of village households to contribute to rural development planning. It has also generated a sense of community ownership of development projects and processes, and a recognition among administrators and technicians that farmer participation enhances the prospects of success. However, it is increasingly being seen as a 'new orthodoxy', and, like all orthodoxy, it is attracting challenges of diverse kinds. These have to do with intellectual property (several methods claimed for 'PRA' in fact pre-date the term) and with the bias resulting from sloppy interviewing. Another is that

enthusiasm for methods has led many to ignore differences in objectives and in the comparative advantage of different kinds of organisation. Some NGOs, for instance, claim to occupy the moral high ground as far as participation is concerned: they can mandate themselves to spend considerable resources in a few villages, and to pursue costly, empowering face-to-face types of participation. Many NGOs see the public sector's efforts as deficient since they are not as fully empowering. Not only does this beg questions over how successful NGO efforts at empowerment have been, it also ignores the fact that the much wider mandate of government departments requires them to spread resources more thinly.

A further concern is the growing realisation of the dangers of implementing diagnostic methods (e.g. PRA) as though in a social and political void: the outcomes of PRA meetings – as public events – will be determined by the 'mix' of groups included or excluded (even if unintentionally). In some cultural settings, the public character of such meetings has made it especially difficult to assess women's needs. For the future it is clear that greater understanding of the processes of institutional, political and economic change at local level is needed, and that these must inform a more judicious selection and application of participatory methods (Mosse, 1994).

Policy implications

1. How and how far public sector researchers need to be proactive in participation will vary according to agro-ecological and socio-economic conditions: the need will be greatest in the more difficult conditions. The public sector necessarily limits itself to *functional* types of participation as distinct from the *empowering* types aimed at by many NGOs. Several sets of conditions have to be met before public sector researchers can be expected to implement participatory approaches effectively:

- the institutes in which they work have to be committed to producing results of use to an identified set of clients;
- performance criteria, the means of assessing work against these criteria, and the types of reward and incentive provided must all be geared to success in delivering technologies to meet clients' needs;
- scientists will need specific training in participatory methods. Providing that due recognition is given to their potential shortcomings, training in PRA methods is a good first step. But scientists must be given the resources for field work to pursue some of the research issues identified by PRA, and so go beyond mere diagnosis.

2. In a different dimension, it is clear that approaches to participation need to be varied according to the biophysical setting: where the intention is to increase crop yields, approaches can be largely individualistic. However, in many semi-arid areas, the scope for agricultural improvement will be limited unless water can be stored on or below the surface and made available when needed. Soil and water conservation measures designed to reduce run off and increase percolation almost invariably require joint action, often on common land, but public sector research and extension services rarely have the necessary skills in forming groups, developing leadership skills, setting up conflict resolution mechanisms, and so on. Given adequate resources, they can be trained in the necessary skills, but to develop local capacity for joint action sensitively and persuasively requires an ethos (and levels of staffing) rarely found in the public sector. An alternative discussed below is for government

researchers to collaborate with those types of organisation (such as NGOs) which already have many of the requisite skills.

3. Governments can and should stimulate the private commercial sector to expand their range of services, where possible to include the provision of advice. Any public sector resources saved in this way by increased private service provision can then be switched to the more difficult areas in support of environmentally sound productivity enhancement, the building of physical infrastructure, and the provision of basic numeracy and literacy. An important caveat is that very poor households may be unwilling to release children to attend school until household incomes become higher and more stable. In more difficult areas, NGOs have sought to 'protect' farmers from market traders, to focus on self-provisioning, and to promote group action even where individual initiative may be more appropriate. There are growing doubts over how far such tactics are really necessary: for instance, recent research in Africa (Sumberg and Okali, 1997) suggests that farmers' experimentation is not much different from the types of adaptive research that the public sector does, and farmers need more new materials to experiment with, not more attention to their 'socially constructed knowledge'; and recent experience in Latin America (Berdegué, 1997) – although possibly limited in its relevance given the levels of unit cost and administrative decentralisation required – suggests that even small-scale farmers can participate in markets for advisory services.

4. The major dilemma remaining in FPR/E is that of combining breadth with depth. Where circumstances allow FPR/E to be concerned with technological change but not with empowerment, this is not difficult to address through something akin to the 'recommendation domains' of the farming systems research era. Where more empowering approaches are necessary, it is problematic: if, as the experience of several NGOs suggests (see e.g. Fernandez, 1993) more than a year of intensive face-to-face interaction is needed with small groups of low-income farmers before they can adequately identify pathways for addressing their needs, then is the only expansion path one of repeating exactly the same process elsewhere? If so, then the spread of participatory approaches is likely to be slow and resource-demanding. Experimentation is needed with a number of less resource-intensive approaches here: 'lateral spread' may be achieved by cross-visits between villages which have introduced group-based diagnosis and resource-management approaches and those which have not. Newly introduced media (e.g. video) can reinforce group-based approaches by providing examples of how groups have successfully been established, and how they have introduced technical change. Intensive, face-to-face participatory methods have become part of the *raison-d'être* of NGOs. Not surprisingly, they have tended to dismiss mass media approaches as 'top down'. In reality, however, they may usefully supplement face-to-face approaches in many settings. Resources saved in this way can then be concentrated on issues where face-to-face approaches are essential, for instance, to create the necessary confidence and negotiating skills to redress the biases against low-income groups attributable to caste-based differentiation, petty corruption, the top-down orientation of government services, and the unwillingness of government services to work together.

5. It is clear that different types of organisation have different strengths and weaknesses: NGOs' strengths in diagnosis and group formation could be complemented by the technical skills of public sector R&E services. Exploitation of

these complementarities would not only make farmer participatory research more effective, it would also help in spreading the approach to different areas. Equally, there are many complementarities among government departments dealing with agriculture, horticulture, livestock, water resources and trees which would bring substantial benefit to low-income farmers if more fully exploited. A number of pilot efforts towards multi-agency and participatory approaches are being tried with some success, but all 'process' approaches require careful building of trust and monitoring of progress against expectations, and are vulnerable to changes in personnel on each side (Mosse et al (eds), 1998). Despite the difficulties facing multi-agency approaches (see also Farrington and Bebbington, 1993) this is an area which merits extensive donor and government support for the future.

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