The emergence of participation as an issue to be addressed within extension approaches was slower in coming to the forefront, as compared to the attention participation received within research systems. One key element of participation is an emphasis on developing the capacity of local people as an end in itself, as opposed to the purely mechanistic emphasis of participation as a means within the technology development flow that has often characterized research and extension programs.

During the late 1980s and early 1990s, increasingly more field-based experiences emerged creating more space for methodological and institutional innovations for agricultural research and extension. Within these participatory approaches - as they became commonly known - a special emphasis was placed upon participation of local people and their communities, especially working with and through groups; and building upon the traditional or indigenous knowledge that they held (Chambers et al., 1989; Waters-Bayer, 1989; Haverkort et al., 1991). Table 1 situates farmer participation in a comparative context of previous and existing research-extension paradigms.

Table 1. Farmer-Led Extension Approach within Research-Extension Paradigms

<table>
<thead>
<tr>
<th>Indicative paradigm parameters</th>
<th>Technology development (research)</th>
<th>Technology dissemination (extension)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processes with outsiders as major protagonists</td>
<td>Conventional research; farming systems research</td>
<td>Transfer of technology; conventional extension; farming systems research/extension</td>
</tr>
<tr>
<td>Processes with insiders as major protagonists</td>
<td>Indigenous technical knowledge; indigenous experts; farmer innovators</td>
<td>Indigenous communication networks; farmer-to-farmer extension</td>
</tr>
<tr>
<td>Processes with insiders as major protagonists, but supported by outsiders</td>
<td>Farmer participatory research; participatory technology development</td>
<td>Participatory extension; farmer-led extension</td>
</tr>
</tbody>
</table>

Farmer Participation in Agricultural Research

The rise of farmer participatory research (FPR) was a deliberate effort among agricultural professionals to combine farmers' indigenous traditional knowledge (ITK) with the more widely recognized expertise of the agricultural research community. The approach aimed to distinguish itself from farming systems research (FSR) in its more deliberate attempt to actively involve farmers in setting the research agenda, implementing trials and analyzing findings and results (Farrington and Martin, 1988). FPR has gone beyond the on-farm trials which became the standard of FSR, and actually called for farmers to design, monitor and evaluate experiments - in collaboration with researchers - carried out in their own fields (Okali et al., 1994). Some have argued that while FPR approaches can increase participatio among farmers, as a research methodology, it has not brought about impact and output (Bentley, 1994), or may require more than short-term technology development efforts (Humphries et al., 2000). Research from Africa supports this argument by showing that less than 15% of "experiments led by farmers" resulted in the definition of new knowledge or th development of new technologies (i.e., were not already in existence elsewhere). The study concluded that farmers' experiments are in fact more "complementary" than "synergistic" to formal agricultural research efforts, and that farmers' experiments are more closely linked
Some of the trends like the recognition of the importance of farmers' ITK, strengthening of farmers' participation, the emergence of non-government organizations (NGOs) within the agricultural technology development sphere - allowed for the development of one of the more articulate models deriving from the FPR experiences - the multiple source of innovation model (Biggs, 1989). The model states that agricultural innovation (and the systems that carry those innovations between and among farmers) can derive from several sources, rather than from a single formal source (i.e., traditional research institutions). Evidence from Ecuador, Niger and other countries supports the multiple source of innovation model by providing well-documented examples of innovations emerging from farmers' associations and NGOs, and argues that public sector research/extension institutions are neither the only nor the main agents of agricultural technology adaptation and dissemination (McCorkle et al., 1988; Bebbington, 1989; Engel, 1990). The multiple source of innovation model has allowed for greater operational space for NGOs within the agricultural technology development system, as it has provided greater legitimacy to their contribution (Farrington and Amanor, 1991).

**Farmer Participation in Agricultural Extension**

Despite the articulate and increasingly large body of literature on participatory research and extension approaches, much of the work that has been conducted under the farmer-first and FPR frameworks focuses mainly on the research dimension of agricultural technology development and dissemination approaches. Concrete examples of the application of the underlying principles of participation, indigenous knowledge, and the users' (or farmers') perspective to the extension function and a discussion of the implications of these considerations to agricultural extension systems have been somewhat limited.

Röling (1995) outlines the facilitation model of extension that has emerged in recent years. The model also identifies the need to support farmer networking to reinforce individual learning, centered within a process which is facilitated by highly trained outsiders (agricultural professionals - both researchers and extension workers), thus comprising an agricultural knowledge and information system (AKIS). While the move from a linear transfer-of-technology extension model to the facilitation model is a difficult one, it is a trend which is gaining acceptance within donor and public sector institutions, but it also begs the need for further investigation into the characteristics of the approach (Röling and van de Fliert, 1994).

Engel (1991) presents a (general) typology of participation in extension which attempts to qualify levels of intensity of farmer participation as:

- participation in extension meetings or activities
- participatory diagnoses (e.g., participatory rural appraisal, problem-census, etc.)
- participation through organization
Using this typology, much of what is called farmer participation in extension falls under the first two levels. However, for extension to become more farmer-led, a greater emphasis must be placed on the third - more substantive - type of farmer participation. One example of this third type of farmer participation in extension can be noted in the experience of the Uganda National Farmer's Association that has established a "demand-driven, cost-recovery" extension system as an alternative to public sector extension in a number of districts (Carney, 1998).

Farmer participation in extension will require putting farmers first by placing real ownership and accountability of public extension organizations into the hands of the clients - the farmers, and their communities and organizations. Antholt (1994) suggests that this might be accomplished by developing mechanisms for improving public support (i.e., cost-sharing local taxes, etc.) that would provide resources to farmers and their organizations, and allow them to choose the types of extension services that are most relevant to their needs. However, he goes on to say that this will also require farmers to assume more responsibility to determine (and pay for) extension services and programs. User-centered approaches to extension - while increasingly fashionable - are not favored by agricultural extension agencies (particularly the public sector) because of the resulting changes in their power relations with farmers (Tendler, 1993).

Drawing upon extension practice and literature, key elements of agricultural extension approaches can be identified and formulated into a comparative typology for three different types of extension approaches (Table 2). The first two columns represent two distinct extension approaches - extensionist-centered and farmer-led approaches. Using key elements of any extension approach, the table attempts to differentiate between these two distinct approaches, recognizing that these are only models and that no single extension program may neatly fit into either model. The third column represents an emerging typology of extension approach which argues for a synthesis of these two conventional models into the form of an "accompaniment" model for participatory agricultural extension - a "middle path" between the more traditional extensionist-centered approaches and the more dynamic farmer-led approaches.

This "accompaniment model" suggests that farmer-led extension approaches cannot solely focus on the farmer promoters involved in the process, as there is, indeed, a critical role for professional extension workers to "accompany" the efforts and to support the achievement of farmer promoters. Experience has shown that it is difficult to achieve quality work from farmer promoters if they are not supported by well-trained professional extension workers sensitive to the new attitudes required of them. However, the professional extension workers must also be committed to and enthusiastic about the changes brought about by farmer-led extension approaches, especially in terms of the change in roles expected of them as professionals, and the communication/capacity-building skills that are required of them in order to work effectively with farmer promoters.

Table 2. Comparative Typology of Extension Approaches from the Literature

<table>
<thead>
<tr>
<th>Elements</th>
<th>Extensionist-centered approaches</th>
<th>Farmer-led approaches</th>
<th>Participatory extension through accompaniment model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary goals of the extension approach</td>
<td>Technology transfer</td>
<td>Farmer participation</td>
<td>Increase household productivity through agricultural and other livelihood improvements</td>
</tr>
<tr>
<td></td>
<td>Agricultural productivity through yield increases</td>
<td>Empowerment</td>
<td>Encourage farmer participation and community</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Capacity-building (especially farmer)</td>
<td></td>
</tr>
</tbody>
</table>

http://www.idrc.ca/fr/ev-85045-201-1-DO_TOPIC.html
### Institutional setting
- Government extension service
- University
- Research institutions (local and international)
- NGOs (local and international)
- Grassroots or farmers' organizations (e.g., cooperatives)

### Type of technology, information or innovation disseminated
- Improved seed varieties
- Cropping recommendations
- Market information
- Soil and water conservation
- Intensive animal production
- Cash crop production (coffee, tea, vegetables, etc.)
- Soil and water conservation
- Agroforestry systems
- Natural resource management strategies
- Integrated farming systems
- Organic agriculture
- Integrated animal

### Community mobilization in local development efforts
- Creating (or strengthening) local institutions
- Build skills and capacity for local empowerment (especially farmer leaders/promoters)
- Create (or strengthen) local institutions

### Institutional organization must be able to provide a policy framework and incentives to staff that support active participation of farmers
- Professional staff must be able to focus the extension work of the institution around values and attitudes that foster farmer participation

### Extension approaches tend to focus more on pro-poor needs, priorities and contexts
- Approaches appear to be more appropriate for extension programs

### Applicable to any institutional setting, including government extension service, local and international NGOs, grassroots or farmers' organizations, university and research institutions
- Relevant to almost any technology, production system or natural resource management regime
that focus on food production/food security and sustainable livelihoods

- Approaches appear to be more appropriate for complex, integrated farming systems which require more complex natural resource management strategies, or more information-intensive production systems, e.g., organic agriculture

- Approaches appear to not be well-suited for more commercial, overtly market-based production settings

<table>
<thead>
<tr>
<th>Level of farmer participation in decision-making for extension priorities and activities, resource allocation, etc.</th>
<th>None to minimal</th>
<th>Minimal to medium</th>
<th>Medium to high</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extension methods used</td>
<td>Lectures</td>
<td>Farmers as trainers</td>
<td>Almost any extension method may be applicable</td>
</tr>
<tr>
<td></td>
<td>Demos</td>
<td>Farmer cross-visits or exchanges</td>
<td>Effective use of any particular method is more dependent upon the emphasis that is given to the specific and active role of farmers, e.g., farmers as trainers</td>
</tr>
<tr>
<td></td>
<td>Films, videos and other audio-visual media</td>
<td>Shared labor work groups</td>
<td>Several methods have proven to be more effective for eliciting farmer participation, e.g., farmer cross-visits or exchanges; farmer field days and exhibitions; demonstrations;</td>
</tr>
<tr>
<td></td>
<td>Pamphlets and other written materials</td>
<td>Demonstrations and lectures</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Farmer training</td>
<td>Films, videos and other audio-visual media</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Radio programs</td>
<td>Farmer training</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Farmer field days</td>
<td>On-farm experimentation for technology demonstration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exhibitions, fairs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### How do farmers participate?

- **Participate in external assessment of community problems, or assist in community problem analysis**
- **Assist in extension planning**
- **Receivers of technical messages**
- **Provide feedback to extension activities and new technologies**

- **Facilitate community problem analysis**
- **Determine extension priorities**
- **Actively involved in extension planning**
- **Serve as extension workers**
- **Provide feedback to extension activities and new technologies**
- **Monitor and evaluate accomplishments**

- **Participate in and/or facilitate community problem analysis**
- **Determine extension priorities and are actively involved in extension planning**
- **Serve as extension workers**
- **Provide feedback to extension activities and/or new technologies**
- **Conduct small-scale experimentation and/or participate in on-farm experiments**
- **Participate in (and often organize) networking and information exchange mechanisms**

- **Participate in (researcher-led) on-farm experiments**

- **Conduct small-scale experimentation**
- **Participate in (and often organize) networking and information exchange mechanisms**
<table>
<thead>
<tr>
<th>Costs, funding mechanisms and control of funding</th>
<th>mechanisms</th>
</tr>
</thead>
<tbody>
<tr>
<td>❏ Generally entails medium to high costs</td>
<td>❏ Generally entails low to medium costs</td>
</tr>
<tr>
<td>❏ Traditionally funded through general taxation and/or bilateral/multilateral loans or aid from the global donor community</td>
<td>❏ Grants from international donors, especially NGOs</td>
</tr>
<tr>
<td>❏ Control of funding resources is usually through the extension provider (primarily non-local levels of government)</td>
<td>❏ Institutional revenues (e.g., cooperatives)</td>
</tr>
<tr>
<td></td>
<td>❏ Control of funding resources is typically through an NGO or farmers' organizations; some examples also exist through local authorities (e.g., village councils, etc.)</td>
</tr>
<tr>
<td></td>
<td>❏ Can include a range of funding sources, including bilateral/multilateral loans or aid from donor community; grants from international donors, especially NGOs; and institutional revenues or income</td>
</tr>
<tr>
<td></td>
<td>❏ Control of resources should be decentralized to the most localized level possible, e.g., local government, NGO, farmers' organizations, local authorities (e.g., village councils, etc.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program geographical coverage (area)</th>
<th>❏ Usually covers large geographical areas, e.g., district or state</th>
</tr>
</thead>
<tbody>
<tr>
<td>❏ Tends to be on a limited scale (&lt;100 communities) within a single administrative unit (e.g., district or state)</td>
<td>❏ While not scale-neutral, these approaches can be applied at almost any scale</td>
</tr>
<tr>
<td>❏ Or, on a pilot project scale within a larger institutional/area setting</td>
<td>❏ Appear to be most appropriate on a limited scale (&lt;1,000 communities) within a single administrative unit (e.g., district or state)</td>
</tr>
</tbody>
</table>

Before we leave the discussion on participatory approaches to agricultural research and extension, a word of caution is required. Many agricultural professionals, including some of the most vocal proponents in favor of participatory approaches, are calling for a re-examination of the current fad in the promotion of these approaches and highlighting the need to be more objective in the analysis of these approaches (Biggs, 1995; Cooke and Kothari, 2002). In order to more accurately measure their effectiveness and impact, Biggs (1995) specifically underlines the importance of developing a framework for analysis and evaluation of participatory technology development (PTD) (and related) experiences - a recommendation that has been strongly seconded by others (Oakley, 1995).

References


Engel, P. 1990. Two Ears, One Mouth... Participatory Extension or Why People Have Two Ears and Only One Mouth. AT Source Vol. 18, No. 4, pp. 2-5.


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