SOCIO-ECONOMIC METHODOLOGIES
BEST PRACTICE GUIDELINES

PARTICIPATORY RESEARCH IN NATURAL RESOURCES

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The Natural Resources Institute (NRI) is a scientific institute within the University of Greenwich, and is an internationally recognized centre of expertise in research and consultancy in the environment and natural resources sector. Its principal aim is to increase the productivity of renewable natural resources in developing countries in a sustainable way by promoting development through science.

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The Natural Resources Systems Programme is one of twelve research programmes funded by DFID's Natural Resources Research Department. Together they form DFID's Renewable Natural Resources Research Strategy (RNRRS), directed towards the priority problems in a wide range of developing countries. The Socio-Economic Methodologies component is charged with improving the design, delivery and impact of renewable natural resources research projects under the RNRRS. The priority is to make research more relevant to the needs of the intended beneficiaries, better targeted towards developmental rather than scientific objectives and leading to better uptake and impact of research outputs.

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THE RNRRS CONTEXT

The Department for International Development (DFID) through its Renewable Natural Resources Research Strategy (RNRRS), emphasizes demand-led research and a clear identification of beneficiaries and target institutions in research design and implementation. These guidelines aim to encourage RNRRS research programme and project managers to think carefully about participation when planning and monitoring research projects. The guidelines assume thatFurthermore, if projects are to achieve uptake of research results, participation of the beneficiaries and target institutions should be clearly focused to achieve specific objectives, and to promote more efficient and effective research.

Participatory research is an approach for which there is no set prescription; it offers a range of options for increasing the involvement of beneficiaries and other stakeholders in the research process. Which options are best will depend on the particular situation involved. Rather than provide specific recipes, this guide highlights important aspects of participation to be considered when designing and implementing research projects. You may find methods referred to that you are not familiar with, or questions that are difficult to answer in detail. This is an indication that more specialist advice or support is required, probably from a social scientist or other colleague with relevant experience in participatory research methods. The list of further reading is to encourage readers to explore for themselves both general and sector-specific aspects of participatory research.

PARTICIPATORY RESEARCH

What is participatory research?

*"At its simplest, farmer participatory research refers to the involvement of farmers in a process of agricultural research" (*Okali *et al.*, 1994 *)*

'Participatory research' is an approach which argues that research has greater relevance when representatives of the targeted beneficiary group (or groups) actively participate in the research process. The approach has been developed in reaction to earlier methodologies — on station research and farming systems research (FSR) — which had both been found to be unsatisfactory in the generation of relevant research outputs.

Conventional research in the 1960s was based in research stations but in the 1970s the approach was criticized as being supply driven and often unrepresentative of farmers' conditions. In response, the FSR approach was developed in the late 1970s. FSR placed importance on demand identification via the diagnosis of farming systems, rationalization of research resources through priority setting, testing new technology under farmers' conditions and developing strong linkages with extension. From the mid 1980s, the FSR approach was criticized as being linear and too prescriptive, both by academics and also by non-governmental organizations (NGOs) involved in developing and testing new technology. From these critiques, the generic approach of farmer participatory research (FPR) was developed. FPR placed particular emphasis on farmer participation and incorporated ideas from related approaches such as participatory technology development (PTD), participatory rural appraisal (PRA)[1] and low external input agriculture (Okali *et al.*, 1994). A recent conceptual review of farmer participation (Farrington, 1997) suggests that an FSR-type approach (emphasizing accurate diagnosis in priority enterprises) may work well with cash crop-oriented, better-resourced farmers in higher potential farming areas. In contrast, the FPR type of approach is seen as more appropriate for the resource poorer living in more marginal areas. The implication is that the definition of who the beneficiaries are, including their geographical location, has a bearing on the level of farmer participation required for greater effectiveness.

1 It is important to note that FPR is not the same as PRA. PRA describes an empowerment-oriented development appraisal. The emphasis is on participatory appraisal – i.e. one that is initiated by an external multidisciplinary team, using qualitative research methods, in order to help a local community conduct an efficient assessment of its own situation, including problems and potential. As such, PRA is not specific to technology development or natural resource management activities. Moreover, PRA is a very different approach from 'participant observation' which describes a prolonged stay in a community or institution, usually by a single researcher seeking to conduct a study unobtrusively.

Does it work?

The question 'does it work?' asks whether the objectives of participation are functional or empowering. Functionally oriented participation aims to enhance the efficiency of research services in delivering adoptable technologies. Participation oriented to empowering rural communities aims to enhance their capacity to conduct research, and to tap into the resources and influence the agendas of formal research organizations — the main target institutions of RNRRS. As they have technology development objectives, these organizations will find efficiency arguments more appealing than empowerment ones. While organizations may differ in their reasons for increasing participation, the methods and processes they use tend to be similar. One of the main differences lies in the geographical perspective. Formal research institutions usually have national or regional research mandates and seek to address priority opportunities with their mandate areas. They may view active participation of a small number of co-operative primary beneficiaries (PBs) who represent the mandate area opportunities as adequate. NGOs often have local mandates and are more concerned with empowering their communities, which are often marginal, and may not represent the priority research opportunities of a research organizations' mandate area.

Paricipatory approaches have proved effective in generating and adapting new technologies for a range of natural resource adaptive and applied research programmes, both within NGOs and within formal research organizations. Examples from various countries are documented for animal disease control, crop pest management, plant breeding, tools and tillage, soil and water conservation and storage pests (see section 1.9 of further reading guide).

Who are the beneficiaries?

Literature on participatory research in natural resources tends to centre on 'farmers'. However, a more widely applicable a term is required to encompass the range of poorer people which RNRRS programmes may target, including fisherfolk, hunters and gatherers, pastoralists, rural artisans, processors, traders and peri-urban households with multiple enterprises — the term 'primary beneficiaries' (PBs) will be used here. PBs stand to gain direct economic, social or environmental advantage from the proposed research output; they may be a particular category of individual, a type of household or community. For the purpose of a natural resource research programme that focuses on poverty elimination these are likely to be defined in relation to natural resource ownership, access characteristics and also capital and skill bases.

Primary beneficiaries may be a relatively powerless group, such as small-scale farmers living in a remote area, rural blacksmiths, hawkers (of vegetables, fruit, fish, grain, cooked food) or artisanal fishermen. Such groups often lack strong organizations to represent their interests, including researchable problems and opportunities. In such cases the researcher has an even greater responsibility to understand the needs and potential of this beneficiary group.

Secondary beneficiaries usually occupy an intermediary position between the researcher and the PB, or are in some way related to either. For example, extension staff occupy an intermediary position and rely on the output of research to update the supply of information to their PB client group. Input supply agents or traders may also find a use for research information in advising their customers, and other researchers may find research outputs useful for planning and refining their own research activities. Other examples include policy makers, middlemen, processors and urban consumers. Widespread uptake of research results depends on the active participation of key secondary beneficiaries or stakeholders (refer to Guidelines on uptake and stakeholder analysis).

Modes and objectives of participation

Primary beneficiaries can be involved in varying modes of participation in the research process. Modes of participation have been formalized by Biggs and others into four

categories — contractual, consultative, collaborative and collegiate. With regard to the RNRRS research programmes, it is likely the 'middle ground' of consultative and collaborative approaches will offer most scope for increasing PB participation, for speeding up technology screening and evaluation, and for and improving chances of uptake. Neither the partner national research institutions nor the resource poor PBs are likely to have the resources required to develop a serious collegiate research relationship. Institutional mandates and resources will favour a functional form of participation. In this context, the contractual mode, engaging willing PBs in traditional multilocational research trials, may be seen as a cost-effective alternative to research sub-centres.

An implication of adopting a functional perspective to participation is that the poorest members of rural communities may be effectively excluded from the research process. This point is addressed under the heading 'who should participate?'

Challenges of working through target institutions

Target institutions, as defined by RNRRS, are expected to take up the products of research for transfer to their secondary and primary beneficiaries. Commitment to using participatory research approaches may present research managers with various challenges when working with national research organizations as their target institutions. There are at least three challenging scenarios — and one which is most promising.

- Where target institutions are 'top-down' in structure, and sceptical of new-fangled approaches to research, while RNRRS research programme or project managers (conscious of DFID goals) are acutely aware of the need to address the real needs of the resource poor. Target institutions may insist that they know what the problems of their constituency are, and see no need for participatory needs assessment. The RNRRS managers may not be convinced that research priorities identified by the national agricultural research systems (NARS) are the real priorities, having alternative sources of information (e.g. from local NGOs or DFID development project reports). RNRRS managers may then consider it worthwhile to invest in research projects which will not only foster a more participatory and demand driven approach to research, but also provide up-to-date information of the real problems facing PBs.

- Where RNRRS programmes are imposed on targeted national research institutions. Participation is not considered as a priority by either party. National research managers may agree to RNRRS proposals, mainly because they have limited recurrent funds, and are looking for ways to keep their scientists active and motivated (even though in silence they see the proposals as top-down). Whether the research is a priority for their mandate areas or groups may be a secondary consideration. RNRRS managers may be mainly concerned that research programmes are implemented through willing institutions, and that publishable results are produced.

- Where both RNRRS and national research managers consider participation as important, but are short on capacity (ideas and skills) in this area. A stakeholder analysis (see Stakeholder Methodologies in Natural Resource Management), should be undertaken to include an assessment of target institutions in terms of their capacity for participatory research approaches. If the capacity is weak, this may jeopardize the success of the project unless relevant training is built into the project.

- The most promising scenario where national research institutions have developed an existing capacity for, and commitment to, participatory research approaches. The institutions will have research staff who are confident in using participatory approaches and have developed good relationships with both their primary and secondary beneficiaries. They will also have a considerable stock of 'social capital', in the form of PB communities and individuals who have been engaged in participatory research activities in

the past, and have a continued interest in this type of activity. In this case a RNRRS project can utilize the existing experience, goodwill and social capital in the implementation of research without engaging in training and capacity-building activities which are expensive and take time to bear fruit.

Who should participate?

Adoption of a systems perspective and a demand-driven research approach will enlighten a whole range of potential collaborators. However, it is important to emphasize that participatory research does not mean all beneficiaries participating directly in the research process. For practical reasons, any research project will relate closely to a relatively small group of primary and secondary beneficiaries. Those managing the research will need to exercise effective and forward-looking judgement about which of the potential range of collaborators should receive greatest attention.

With regard to which secondary beneficiaries should participate, it follows from the previous section that, ignoring issues of sectoral interest and technical competence, those with past positive experience in participatory research in NARS and related organizations are preferred.

Where research programmes interact directly with a selection of PBs, the way this smaller group is formed is important. PBs may volunteer themselves, they may be nominated as community representatives, elected by secret ballot, selected from a random sample or purposively selected using agreed criteria. When participation is functional, who participates, and the options used to foster involvement, should depend less on 'democratic' or 'meritocratic' criteria, and more on the objectives of the research, and the resources at a project's disposal. Moreover, in practice research objectives will influence the type of collaborator required, particularly in terms of their resource base, knowledge base and level of interest. Project resources will also limit the geographical scope and the number of participants, and also the minimum requirements regarding the research capacity of participants. PBs with more resources (e.g. land, labour, equipment), existing positive on-farm research experience, and living nearby will be easier and therefore less costly to engage in the research process.

In practice many participatory research programmes targeting the poor find themselves making a trade-off between engaging the poorest and engaging the willing. This is because for many of the poorest a prolonged involvement in research activities is not attractive; they are pre-occupied with more pressing livelihood issues. Under such circumstances, relying only on volunteers will skew participation away from the poorest. Moreover, within communities power is distributed unevenly; participants who volunteer or are nominated by their community are often male and resource richer. Participatory research projects therefore need to monitor their participating PB group, and may need to engage in more purposive selection strategies. To do this effectively a prior understanding of the local social structure may be required. Ideally, this aspect could be monitored by the collaborating communities/groups, but a functioning internal monitoring mechanism will require considerable inputs to establish. One option is to establish a research group, or groups (of different interests), representing the PB group. The poorer beneficiaries may be induced to co-operate through provision of some benefits in kind (e.g. free seeds or agro-chemicals), but there is a real risk that free handouts will influence the kind of technology evaluation feedback they give. Other incentives for participation of the poorer is to sponsor them to attend field days and tours (provided they can afford to the spend time away).

THE RESEARCH PROCESS

Renewable Natural Resources Research Strategy programmes have been structured in relation to production systems — systems that are not only biological but include social, institutional and economic aspects. Adoption of a systems perspective offers an opportunity to think and act within a wider conceptual framework. This may, in turn, lead to the involvement of other actors or institutions and foster a multidisciplinary approach to research. Thus, in addition to dialogue with target beneficiaries, participatory research in the RNRRS implies respectful dialogue across disciplines. A systems perspective has a number of implications for participation:

- research proposals will reflect a holistic view of the relevant production system, and include ideas of how proposed interventions will impact on the livelihoods of the range of beneficiaries
- research proposed will be guided by an understanding of the PBs' perspective of the problem being addressed — including relevant indigenous technical knowledge (see BPG on indigenous knowledge)
- beneficiaries will be described in terms of their relation to, or place within, the targeted production systems
- an understanding of systems linkages should guide relations established with target institutions, with other research projects, and with individual researchers.

Research level

How does participatory research relate to the different levels or categories of research undertaken? A recently developed categorization of research within RNRRS has identified three levels of technical research:

- **strategic research** involves taking ideas generated from basic research and applying these to address issues, problems or opportunities with a wide geographical or sectoral application.
- **upstream applied/adaptive research** involves developing, modifying and testing technology to fit more in specific situations. Upstream implies a more researcher-oriented process of technology development, screening and adaptation, using more conventional experimental methods.
- **downstream applied/adaptive research**[2] requires more direct contact and dialogue with the RNRRS primary beneficiaries than the other levels of research. Downstream, involves adaptation and testing by the PBs, with less emphasis on conventional scientific approaches and rigour.

Upstream applied/adaptive and strategic research often require extensive dialogue with other professionals and institutions (other disciplinary researchers, researchers involved in adaptive research, agro-processing and supply representatives etc.).

Not withstanding the differences between the levels of research, the overarching importance of teamwork and partnerships in the research process is gaining recognition. However, a functional perspective requires that increased participation through teams and partnerships should not be for its own sake, but in order to achieve a specific output. In project design (including the logical framework), the connection between participatory research activities and specific outputs should therefore be made clear.

Some options for participation in relation to the research levels are presented in Table 1. This table should be used in conjunction with the activity options for participatory research (Table 2) and the project design and project implementation checklists provided at the end of this Guide.

2 See ITAD and NRI (1997) *Monitoring the Impact of the DFID RNRRS for 1995–2000* (mimeo).

TABLE 1: Specific participatory research objectives and inputs in relation to research levels

	Participatory research objective	Cost-effective ways of providing input
Strategic Research	To consult PBs in identification of research issue and use their technical knowledge in research design	Topical diagnostic surveys/PRAs Key informant interviews (e.g. extension staff)
	To consult with other researchers engaged in related research during planning and implementation	Local PB expert knowledge workshop Topical researcher networking (e.g. e-mail dialogue) National, regional and international workshops
Upstream Applied/ Adaptive Research	As above plus To consult with a wider range of stakeholders/secondary beneficiaries	Stakeholder research planning workshop
	To have more detailed consultation with PBs at critical stages of research cycle (planning, implementation, evaluation and selection of technologies for adaptive testing)	PB visits to research station Local expert panels PB research clusters Use existing farmer research groups or networks
Downstream Applied/ Adaptive Research	To provide institutions with accurate knowledge of their client group's needs and researchable priorities	Key informant farming systems zoning survey Expert local knowledge workshops Broad-based diagnostic surveys/PRAs
	To create awareness of research support available and assist PBs to develop their own research agenda, source new technology and implement experiments	Strengthen existing research and extension networks Establish farmer research and or extension groups Farmer cross-visits Travelling seminars/study tours Establish technology and information database for secondary and primary beneficiaries Training staff in facilitator roles
	To strengthen capacity for disseminating technology for both PBs and local extension services	Support establishment of PB-managed technology supply systems

Relationship to research topic

Are there any research topics which may not easily lend themselves to participatory approaches, or in which participatory approaches have low pay-offs? This is a difficult question to address; each case may be unique. Some guidance can be gained from a careful assessment of the extent of the PBs' knowledge of the research topic. Where PBs have only limited knowledge on the research topic, or understanding of what it has to offer, the benefits from participation in terms of improved technology design and uptake are less. For example, biotechnology, gene mapping, biological control, pesticide or fungicide formulation, vaccine development, and fertilizer formulation may produce acceptable technologies developed with limited PB input. On the other hand, plant breeding and adaptation, soil and water conservation, tools development, control of animal parasites, field crop and tree crop management, post-harvest processing and storage, and integrated pest management (IPM) are likely to benefit from a considerable amount of PB input.

A related influence is where the PB has limited options for manipulating or managing a new technology. For example, vaccines offer less scope for manipulation than drugs for controlling animal parasites or diseases; biological control or aerial spraying of insect pests less than IPM; hybrid varieties less than open pollinated ones; fish breeding and disease control less than fishing or fish drying methods.

DATA QUALITY AND PARTICIPATORY METHODS

Important decisions about research design and data quality are influenced by the large amounts of data that are usually collected during problem diagnosis and experimentation in natural resources research (see Biometrics guidelines). Furthermore these decisions are typically influenced more by disciplinary backgrounds and conventions than by the needs of primary and secondary beneficiaries.

Lead responsibility for a particular research activity usually rests with either a social scientist or a natural scientist, depending on the nature of the research. During needs assessment and problem characterization, a social scientist often takes the lead. Many social scientists are comfortable using qualitative approaches which, in most cases, provide an adequate basis for decision making. Informal surveys, rapid rural appraisals (RRAs) and PRAs are now accepted as cost-effective approaches for most types of natural resource problem diagnosis. Exceptions are problems which are new and (while symptoms are visible) involve organisms and processes which are not visible to the naked eye. Often, in such cases, experts can identify these problems by observation of qualitative indicators rather than using biophysical analysis. Many plant, tree, animal and fish diseases and some pest problems and soil deficiencies fall into this category. Biophysical monitoring or experiments may be used to explore further the nature of the problem, and a more quantitative approach may be used to establish the relative importance of a specific problem, or certain key biophysical interactions.

Experiments are usually designed by biophysical scientists, trained in a quantitative approach but with limited knowledge about qualitative methods. They may experience many challenges and frustrations when conducting experiments under the conditions of the participating PBs. PBs may not have enough of the required resource (e.g. land area, livestock heads, live trees) for a conventional experiment. Moreover, the variation in conditions from one collaborating PB to another is often greater than the treatment differences, making experimental management and analysis difficult.

As a general guide, qualitative methods are more appropriate to downstream applied/adaptive research, while the higher levels of research will depend more on quantification and conventional experimental methods. If an experiment is testing the acceptability of a new technology and describing, in general terms, its benefits and disadvantages to the PB, a balanced record of PB opinion may suffice. Qualitative methods are likely to be adequate for this task and, in any event, can usually be supplemented by quantitative data collected by the PBs themselves. Outputs from such research may be measured in terms of the uptake of results by intended beneficiaries rather than by scientific publication. Therefore, the decision about which type of experimental design to use depends largely on what outputs are required by the researcher, rather than by the PB's requirements. The PBs may consider their own judgement as adequate to make a decision. However, the researcher is often looking not just for PB feedback on a new technology, but also for data that are publishable and credible to scientist colleagues.

This raises an ethical issue that is not addressed in the RNRRS programme at present. While nominally 'demand driven', RNRRS programmes often prescribe as outputs articles published in refereed journals as a means of quality control. If scientific publication is a major objective, then credible quantitative data are likely to be required. Few scientific journals will accept results of experiments based on qualitative evaluation; some journals may publish research combining quantitative and qualitative analysis in a creative way. Effective partnership requires that the interests of both parties are met and sustained. The implication is that, unless there are major shifts in formal research institutions regarding standards for evaluating performance and recognizing excellence, researchers will have to serve the two masters of conventional scientific rigour on the one hand, and the needs of

resource-poor primary beneficiaries on the other. This in turn will require the expenditure of more resources during the research process.

Generating extensive quantitative data from PB-implemented research will require more measures in place to produce data which can be used for statistical analysis. This can include increasing the number of blocks (usually collaborating PB experimenters); increasing plot size (if plots are used); giving more training to the supervising staff and collaborating PBs on layout and data collection; avoiding more complex factorial designs; increasing the frequency of observations by the researcher; collecting more supporting contextual data and using suitable statistical methods for analysing data which may be unbalanced and have a high coefficient of variation[3].

CHOOSING PARTICIPATORY ACTIVITY OPTIONS

The various options for achieving greater participation come with cost implications. Are these costs reflected in the budget? The relevance of the activity options (Table 2) will depend on the nature of the project, and where in the research cycle you are. Professional advice should be sought before committing large amounts of project money or human resources to a particular activity.

CHECKLIST FOR FORMULATING NEW PROJECTS

The following checklist is not intended for use as a series of boxes to be checked off; it is to stimulate research programme and project managers' thinking and to guide decision-making during project formulation.

Organizational assessment

- Does the proposed collaborating national research organization have experience in using participatory research methods?
- Do the proposed national researchers also have this experience?
- Does the national research organization have existing relations with the proposed PB group?
  If yes, what is the background to these relations, and is there an existing PB research network and significant PB social capital to harness during implementation?

Demand identification

Primary beneficiaries

- Is the main PB group for the research proposed clearly identified?
- Roughly how many PBs are likely to benefit from the research proposed, and over what geographical area?

Needs identification

- Does the PB group have an effective organization for articulating its problems? If yes, have you shown how this body/bodies has/have been involved in needs identification? If no, how have PBs been involved in identifying the research issue?
- What use has been made of secondary information sources — how consistent are these in terms of information regarding the research issue at hand?
- Has the problem been properly described within a systems context?
- Is there a clear trend over time and is there any evidence that the problem addressed is likely to get worse — or to become less relevant — over the next 5–10 years?

3 For example, see *On-farm Trials – Some Biometrics Guidelines* December 1997, DFID Biometrics Advisory and Support Services, Statistical Services Centre, Department of Applied Statistics, University of Reading.

- What are the likely effects — both positive and negative — on other aspects of the system if the problem is removed, or if the opportunity is taken up.

TABLE 2: Activity options overview for participatory research

Activity	Time and human resources required	Cost level	Comments
Topical diagnostic surveys/PRAs	5–10 days 2–5 researchers	Medium	Area sampling very important
Key informant interviews (e.g. extension staff)	2–4 days 1–3 researchers	Low	Careful selection of key informants
Key informant farming systems zoning survey	1–6 weeks 2–4 researchers	Medium–high	Time depends on area covered and detail required. Combined with GIS and secondary data analysis
Broad-based diagnostic surveys/PRAs	10–15 days 5–15 researchers	Medium–high	Requires experienced leadership and wide cross-section of disciplines
Local PB expert knowledge workshop	1–2 days 1–3 researchers	Low–medium	Facilitation and language skills essential — follow-up visits to local experts often required
Stakeholder research planning workshop	1–2 days 5–20 persons	Medium	Needs careful planning and expert facilitation
Workshop using expert knowledge of local research and extension staff for research planning	1–3 days 10–30 persons	Medium	Needs careful selection of participants and carries high risk of information bias
National collaborators attend regional or international workshops		Medium–high	Provides opportunity for peer review and incentive for writing up research
Topical researcher networking (e.g. e-mail dialogue)		Low	Access to e-mail may be difficult and experienced researchers may not participate
Establish PB research networks	1–2 researchers	Medium–high	May take 6 months to a year to establish
Strengthen existing research and extension networks,		Medium–high	Likely to be resource intensive and require strong senior management support
Use existing farmer research groups or networks	Ongoing 1–2 researchers	Low–medium	Communication and facilitation skills important
PB cross-visits	1 day	Low	Researcher facilitates
PB study tours/travelling seminars	1–3 days 1–2 researchers	Low–medium	Takes time to plan itinerary and make follow-up visits to evaluate impact on PBs
Establish local expert panels research topic	1–2 researchers medium	Low–	Cost-effective if a pool of interested local PB experts is available for visits and establishment of research
Establish PB research clusters,	1–2 researchers	Low–medium	Improves opportunities for cross- and extension groups
Establish farmer research or extension groups	1 year 1–2 researchers	Medium	Requires facilitation skills and strong PB interest.
Support establishment of PB managed technology supply systems			More cost-effective if done with interested local NGOs, or using existing groups and entrepreneurs
Establish technology and information database base for key beneficiaries		High?	Activity currently at conceptual level in most countries
Training staff in participatory methods and facilitation		Low–medium	May be difficult to find a suitable local trainer — task oriented training is usually more effective
PB visits to research centres	1 day 1–2 researchers	Low	Requires a structure for managing dialogue so that PBs feel empowered and researchers listen

GIS = geographical information system

Baseline or diagnostic studies

- How will PBs' (final beneficiary) views inform the **scope** of the study?
- What will be the strategy to ensure that a cross-section of the target group is covered and unwanted biases are minimized?
- Have previous studies been consulted, and if so how have these informed the scope of the study (reducing danger of survey fatigue and duplication)?
- How, if at all, will PBs be involved in the analysis of the study results?
- Will the study results be discussed with the PBs, and if so how will their views inform the research planning?

Experimental planning

- Will the beneficiaries be consulted about, or given responsibility during, planning of experimental content and design?

  If yes, what mechanisms will be used to ensure their views influence the details of research design and implementation?
  If no, are there good reasons for not including the beneficiaries in planning?
- What weight will be given to the collection and interpretation of quantitative as distinct from qualitative data, and why?

Experimental implementation

On-station/controlled environment research

- If any research will be conducted in a research station are there any advantages of having PBs visit and comment on the research? If yes, what could be done, when and how?

Off-station research/ research in a less controlled environment

- Are there any plans to incorporate PBs' views on experimental treatments, evaluation parameters and mode of measurement?
- What is the proposed mode of including PBs views?

Demonstration and uptake

- Who will make decisions about which technology to recommend for wider dissemination?
- What will the PBs' role be in formulating technical messages for other PBs?

CHECKLIST FOR IMPLEMENTING EXISTING PROJECTS

Bringing in, or strengthening, a participatory research approach within an ongoing technical research programme will depend where the project is in the research cycle. Questions below address each major phase of the research cycle.

Needs identification completed?

- How are the results being shared with others?
- What scope is there for bringing PBs into the process of planning experimental interventions?

Experimentation under way?

- Are you encountering problems of PB participation/commitment during on-site/on-farm experimentation?
  If yes, have you probed for the reasons for these problems?
- If PBs are not involved in planning experimentation, are there good reasons? What scope is there for bringing them into the planning process (redesign, implementation, evaluation of results)?
- How are the experimental results being shared with others? Are there other people who might benefit from — and who are not currently receiving — the information being generated ?
- What other development activities are going on in the area? If many:How are these affecting PBs' perceptions of the research? What is your relationship with these other projects?

Research results ready for dissemination? (see BPG on uptake pathways)

- What is the basis for confidence research results achieved — any indications of unassisted uptake by PB group? If yes what are the features of those taking up the new technology?
- Can the PB collaborators be more fully involved in dissemination activities?
- What input could PBs have in formulating technical recommendations?

FURTHER READING

There is a large and growing body of literature on participatory approaches which is becoming increasingly sector- and activity-specific. This list should be used selectively; general texts are followed by texts addressing more specific areas of interest. A range of publications has been listed for most specific areas because some of these texts are not easy to obtain.

General and methods

Reviews, issues and concepts

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