

1. Agricultural Research

DFID

The purpose of these *Key Sheets* is to provide DFID Natural Resource Advisers with an easy and up-to-date point of reference on issues relating to development in the natural environment.

The sheets are designed for those who are managing change and who are concerned to make well-informed implementation decisions. They aim to distil theoretical debate and field experience so that it becomes easily accessible and useful across a range of situations. Their purpose is to assist in the process of decision-making rather than to provide definitive answers.

The sheets address three broad sets of issues:

- Service Delivery
- Resource Management
- Policy Planning and Implementation

A list of contact details for organisations is provided for each sub-series.



Overview of the debate

Over the past 5 years the debate about agricultural research has focused on:

- Finding ways to ensure that research is relevant to users' needs and linked to extension and input suppliers.
- Scrutinising the rates of return to agricultural research, including comparing returns in high and low potential areas.
- Seeking ways to build human capacity in developing country research systems.
- Analysing trends in research funding and reviewing the relative responsibilities of the public and private sectors (including farmers themselves).
- Assessing the potential of biotechnology to assist poorer farmers.
- Finding ways to improve links between international agricultural research centres and national agricultural research systems in developing countries.

Key issues in decision-making

Though external support to agricultural research is credited with some of the key successes in development - notably the Green Revolution - donor investment in this area remains highly controversial. The existence of multiple market failures and the need to ensure food security for a rapidly growing global population in an environmentally sustainable manner militate strongly towards sustained donor emphasis on research financing. However, the dismal performance of many past projects, the distance which remains between researchers and their poor clients (despite many years of emphasis on farmer participation and systems approaches) and the lack of priority accorded to agricultural research by many domestic governments argues for a cautious approach by donors. It also suggests the need to design more innovative interventions which seek to enhance efficiency without compromising impact, to build capacity while at the same time ensuring that this is deployed in the most effective manner to maximise the benefits to poor farmers.

Much attention has been paid to the role of the private sector in agricultural research and there is certainly potential for greater private research funding. However, dogmatism about public and private roles is likely to be counter-productive; roles will change over time and DFID must be in a position to recognise those changes, to stimulate them and to alter its own support strategies accordingly. First, it is important to understand the institutional environment in which research takes place and to assess who is benefiting from existing systems.

- Which organisations perform which functions within the national research 'system' (public sector, NGOs, universities, private foundations and companies, farmers' organisations)?
- Are there any readily identifiable areas in which complete, or near complete, public sector withdrawal makes sense or where levy funding from producers would be feasible?
- Which organisations are best placed to work with poorer farmers? (Resources, technical capacity, skills and scale are all important as are the characteristics of the people themselves.)

The high costs of conducting research make it important to seek opportunities for collaboration and, where possible, technology sharing. The international centres of the CGIAR have an important role to play as do regional research organisations such as CORAF and ASARECA.

- Are the relative responsibilities of the different types of organisation well understood so that duplication and wrangling are avoided?
- How can national research systems be supported to 'borrow' technology rather than always seeking to conduct their own research? (Investment in communications infrastructure may be as critical as stimulating a change in attitudes.)

Where research *is* necessary, the best strategy for donors may be to support research partnerships or existing networks. Thought must be put into building effective partnerships and maintaining a client orientation within them:

- Do all partners accord genuine priority to the area of research? What commitments can be requested to demonstrate this (eg. changes in reward systems within partner organisations to strengthen researcher incentives)?
- How do political/legal issues affect options for partnership (eg. do concerns over shared access to proprietary material constrain collaboration)?
- Has adequate attention been paid to developing the demand side for research so that farmers too become partners? (Provisions for identifying 'silent' groups - women, the poorest or certain ethnic groups - and for mediating between conflicting interests should be made. Capacity building with producer groups is likely to be required.)
- How will partnerships be evaluated and adjusted over time?

DFID financed research

- Research and farmers' organisations (ODI - start 1994)
- Financing agricultural research and extension for smallholders in SSA (OPM - start 1994)
- New investment strategies for client-oriented research for agriculture (ESDAR, World Bank - start 1996)

DFID project experience

- Various projects under the RNRRS
- Support to KARI (Kenya) and support to NARO (Uganda) and DRT (Tanzania) in planning phase

UK and other expertise

- **Overseas Development Institute** (research policy and management)
- **Natural Resources Institute** (participatory research, research execution)
- **University of East Anglia** (participatory research)
- **Various CGIAR Institutes**, especially **ISNAR** (research management and prioritisation) and **IFPRI** (research funding and impact)
- **The World Bank** (ESDAR)
- **Michigan State University** (research strategy and impact)
- **KIT (the Royal Tropical Institute)** in the Netherlands (participatory research)

Agricultural Research *continued*

It remains important for donors, and the CGIAR institutes and NGOs that they support, to invest in areas which are inadequately serviced by the private sector. These include: neglected 'poor people's crops' (eg. pearl millet, sorghum): client-oriented, participatory research with poorer farmers; low-input, knowledge-intensive innovations; and issues relating to sustainable natural resource management. However, constrained budgets spell the need for careful thinking about priorities:

- Are there areas/problems for which research is never likely to be effective? Would money be better spent on off-farm income generating options in the least viable agricultural areas?
- Are the costs and benefits of participatory, as distinct from conventional, research being measured and complementarities sought?
- Has attention been paid to the process of institutionalisation of the participatory ethic? (Participatory 'experiments' at the margins may have few multiplier effects.)

One increasingly popular way of trying to ensure that research is participatory, client-led, transparent and efficient is to support the establishment of dedicated, often competitive, research funds (which may finance only collaborative projects). Important considerations include:

- What is the most appropriate institutional 'home' for the fund? (If the promotion of partnerships is important dominance of one particular organisation should be avoided.)
- Does the host institution have adequate financial management systems in place?
- What should be the composition of the committee that governs the fund? Will committee members require training for their new role?
- Do potential applicants have adequate resources/skills to prepare proposals for funding?
- How will money from the fund interact with and complement other sources of research financing? (Are core activities and overhead costs adequately supported from elsewhere? Are additional measures to ensure a balanced overall research portfolio likely to be required?)
- How will the achievements of the fund be monitored and evaluated?

While research funds may be an attractive option for donors, their effectiveness will be compromised if there is inadequate human capacity for technology development within recipient countries. Certainly the benefits of competition will not be forthcoming in countries with little capacity. Donors have a role to play in training, both on the technical side and in relation to complementary skills development (eg. socio-economic skills, monitoring and evaluation and research management).

- Is there scope for donor collaboration so that a domestic training resource can be built up?
- Is there a need for farmer training so that the demand side for research and the scope for farmer collaboration can be improved?
- Do managers understand and are they operationalising the new principles upon which research is based (Client orientation, quests for efficiency and sharing of technology and experience)?
- Is research management adequately decentralised so that responsiveness to local needs is facilitated and bureaucratic procedures are kept to a minimum?

Much attention has been paid to the development of research/extension linkages. Ways of spreading research results amongst farmers must be chosen according to context. There are, though, some general principles: extension agents must feel that they are 'backed-up' by the research system; regular briefings at research stations are important; researchers should have direct contact with their clients; and extension agents must become involved in adaptive research activities.

Seminal literature

- Anderson, J. (ed.) (1994) *Agricultural Technology: Policy Issues for the International Community*. Wallingford: CAB International.
- Ashby, J.A. & L. Sperling (1994) 'Institutionalising Participatory, Client-Driven Research and Technology Development in Agriculture'. *ODI Agricultural Research and Extension Network Paper No. 49*. London: ODI.
- Farrington, J. & A. Martin (1988) *Farmer Participation in Agricultural Research*. London: ODI.
- Merrill-Sands, D. & D. Kaimowitz (1991) *The Technology Triangle: Linking farmers technology transfer agents and agricultural researchers*. The Hague: ISNAR.

Key Sheets are available on the Internet at: www.odi.org.uk/keysheets/
or through DFID's website

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