

# 3. Seed Supply

## 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 debate about the future of national seed systems has focused on:

- The degree to which public agricultural research is developing varieties that are appropriate to farmers' needs.
- The future of parastatal seed enterprises, in light of their inefficiencies and competition from the private sector.
- The scope for the private commercial seed sector.
- The potential for NGO- or donor-supported efforts to develop farmer groups or cooperatives for local seed provision.
- How seed regulation can support or hinder the emergence of private (commercial or voluntary) seed supply alternatives.
- The choices related to intellectual property protection for plant varieties.
- The management of emergency seed provision programmes.

## Key issues in decision-making

Seed policy should create a framework to help direct public and private resources to address seed demand. However, many seed projects and programmes are initiated without a clear assessment of the nature of seed demand. The precise nature of the demand has a significant influence on the appropriate seed supply response. It is important to understand why farmers seek seed off-farm.

- Are farmers searching for new varieties (which may simply require an initial introduction of seed)?
- Are they purchasing hybrids (which can be supplied by a commercial enterprise)?
- Do they have seed quality or management problems (which require specialised seed enterprises or extension advice to improve farm-level seed management)?
- Is there an indication of poverty-induced seed shortage (which will not be addressed by conventional seed provision activities)?

Regulatory reform is required in order to support a move towards a wider range of seed provision options. Rules governing variety release and registration need to be re-examined, and greater regional harmonisation of seed regulation is required. Responsibility for the regulation of seed quality control (seed certification and seed testing) should not rest exclusively with a public agency; much greater producer and consumer participation in seed regulation is needed.

Removing regulatory barriers will encourage private seed development. But commercial seed enterprises are most active where there is large and constant demand; this will be for hybrids and commercial farming. As the commercial seed sector develops it will expand into other markets, but it is not likely to be able to address all the seed requirements of resource-poor farmers.

Answering the following questions will help provide an indication of how far private seed provision is likely to extend and thus what emphasis should be placed upon alternative local-level seed provision strategies.

- Do private seed enterprises have access to adequate (public or private) germplasm and plant breeding skills?
- Is the rural input marketing system sufficiently developed to support seed trade?
- What is the size, concentration and regularity of seed demand?
- What is the range of varietal requirements?

The emergence of small seed enterprises will be stimulated by appropriate regulatory reform and by making seed businesses eligible for support under small business development programmes. Seed businesses have historically started on a small scale, to meet local demands. But a seed business requires a certain minimum level of resources, skills, and information links. Efforts to target the poorest households as possible seed producers are not usually successful. Where donors, NGOs or local government projects promote seed multiplication at the local level it is important that the sponsors articulate the rationale. Is local-level seed multiplication being done to:

- test and promote new varieties or crops (which requires a strong linkage with the research service)
- stimulate the emergence of small commercial enterprises (which requires a clear demonstration of sustainable demand and the development of a wide range of skills and linkages)
- help address the needs of the poorest farmers (for whom seed shortage is a symptom of much wider needs for better farming practices and access to resources).

## DFID financed research

- Small farmer seed supply: reforming regulatory frameworks (ODI, CAZS - start 1995)
- Linking seed producers and consumers: diagnosing constraints in institutional performance (ODI, ICRIAT - start 1997)

## DFID project experience

- Nepal: Koshi Hills seed and vegetable project (start 1993)
- Malawi: Smallholder seed development project (Action Aid - November 1995)
- Ghana: Integrated food crops systems project (NRI - start 1996)
- Zambezia: Agriculture recovery project (World Vision - start 1994)

## UK and other expertise

- **Overseas Development Institute**, Seeds and Biodiversity Programme (policies for plant genetic diversity, seed system analysis, regulatory reform, seed enterprise development)
- **Natural Resources Institute** (seed storage, seed warehousing, postharvest seed handling)
- **University of Edinburgh**, School of Agriculture (training in seed technology, seed programme development)
- **ICARDA Seed Unit**
- **Mississippi State University**, Seed Technology Laboratory

## Seed Supply *continued*

Public plant breeding will continue to play an important role in national seed systems. When investing in public plant breeding the following questions must be addressed:

- ▶ Is the system efficiently organised to identify and release varieties suited to a range of growing conditions?
- ▶ Is there a clearly specified division of labour (and collaboration) with private plant breeding?
- ▶ Does the public research system have appropriate links with the rest of the seed system to ensure the effective delivery of its varieties?
- ▶ Are provisions in place to help conserve and enhance crop genetic diversity?

The issue of plant variety protection (PVP) has captured many headlines. It is an important concern, although more fundamental seed regulatory reform will have a greater immediate impact on farmers' access to seed. Countries must devise PVP legislation that provides adequate assurances and incentives to the private seed sector, while allowing open exchange of public germplasm and protecting farmers' ability to save and exchange seed.

There will be occasional need for emergency seed supply in times of disaster. There is a disturbing trend for some governments to distribute 'emergency' seed for purely political motives, especially in Southern Africa. These efforts seriously affect incentives for strengthening local seed systems and jeopardise crop genetic diversity. Again, it is critical to understand the nature of the problem, and to use this information to plan an appropriate response.

- ▶ Is there an adequate understanding of farmers' varietal and seed requirements?
- ▶ Does the emergency response take full advantage of the local seed system?
- ▶ Is lack of purchasing power the core problem?
- ▶ Does the emergency response include attention to preserving and enhancing plant genetic diversity?

National seed systems are undergoing rapid change. Seed policy must promote growth that provides clear incentives for commercial development while also strengthening public roles in variety development. It must also provide service to farmers who are unable to exert commercial demand. As national agricultural sectors develop there will be increasing possibilities for commercial seed enterprises. But this is an evolutionary process, and not all types of seed demand will elicit commercial response. The public sector must maintain a clear commitment to agricultural research, regulatory supervision and effective emergency seed programmes.

## Seminal literature

- Almekinders, C., N. Louwaars, & G. de Bruijn, (1994) 'Local seed systems and their importance for an improved seed supply in developing countries.' *Euphytica* 78:207-216.
- Cromwell, E. (1996) *Governments, farmers and seeds in a changing Africa*. Wallingford: CAB International.
- Cromwell, E., & S. Wiggins with S. Wentzel (1993) *Sowing beyond the state. NGOs and seed supply in developing countries*. London: Overseas Development Institute.
- Crucible Group (1994) *People, plants and patents. The impact of intellectual property on biodiversity, conservation, trade and rural society*. Ottawa: IDRC.
- Jaffee, S. & J. Srivastava (1994) 'The roles of the private and public sectors in enhancing the performance of seed systems.' *The World Bank Research Observer* 9:97-117.
- ODI Seeds and Biodiversity Programme. (1996) 'Seed provision during and after emergencies.' *Relief and Rehabilitation Network Good Practice Review No.4*. London: Overseas Development Institute.
- Pray, C. & B. Ramaswami (1991) *A framework for seed policy analysis in developing countries*. Washington, D.C.: IFPRI.
- Sperling, L. & M. Loevinsohn (eds) (1996) *Using diversity. Enhancing and maintaining genetic resources on-farm*. Proceedings of workshop held on 19-21 June 1995, New Delhi, India. New Delhi: IDRC.
- Tripp, R. (ed.) (1997) *New seed and old laws. Regulatory reform and the diversification of national seed systems*. London: Intermediate Technology Publications.

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

Department for International Development  
Rural Livelihoods Department  
Tel: +44 (0)20 7023 0022 Fax: +44 (0)20 7023 0624  
Email: [rl-policy@dfid.gov.uk](mailto:rl-policy@dfid.gov.uk) Website: [www.dfid.gov.uk/](http://www.dfid.gov.uk/)

ODI Series Editor: Diana Carney