

# Promoting the Growth and Development of Smallholder Seed Enterprises for Food Security Crops



*Best practices and options for decision making*



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## Foreword

In recent years, many governments in the developing world curtailed public-sector investment in the seed sector, hoping that the private sector would take over. However, the private sector has generally not taken up the challenge as expected. As a result, farmers are left without access to seeds of new and improved varieties. This is especially critical for self-pollinated and open-pollinated crops and vegetatively propagated crops that are not attractive to private investment.

This is a major problem constraining agricultural development, particularly in the face of climate change when access to new and genetically diverse varieties is critical. Countries often request the Food and Agriculture Organization of the United Nations (FAO) for policy or technical advice on how to sustainably increase the supply of quality seeds of crops, which is so important to food security.

The present Guide is in response to the request by governments and decision-makers in developing countries for guidelines on options to build efficient seed delivery systems adapted to the level of their agricultural development. Though it is not and should not be considered as a panacea to all seed issues facing different countries, FAO hopes that it will help to better understand the problems in this sector in order to better cope with them and will therefore contribute to the development of vibrant national seed industries in developing countries in support of food security.

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1.

## Introduction



# 1.

## Introduction

Farmers everywhere depend on access to good quality seed as the foundation to their crop production system. At the same time, easy access to quality seed can be achieved and guaranteed only if there is a viable seed supply system to multiply and distribute seeds that have been produced or preserved.

Over 90 percent of the crops in developing countries are still planted with farmers' varieties and farm-saved seeds. Private seed companies tend to concentrate on production of hybrid seed, especially of high-value crops grown by larger farmers in more favourable areas, i.e. targeting those who are best able to pay for the seed. They tend to avoid self-pollinating crops, including many of those grown by smallholder farmers and on which they depend for their food security. Also for these crops, opportunities for commercial seed production are very limited because the biology makes it easy for farmers to save their own seeds for planting.

In the past, the public sector, universities, governmental organizations and international research organizations, was the major source of new varieties and quality seeds of food crops for the smallholder farming sector, especially self-pollinating crops. However, in recent years many countries, donors and international organizations have encouraged privatization of the seed sector. This, combined with cut-backs in international agricultural research organizations, has led to reduced investment in public-sector plant breeding and seed production. This has very seriously constrained progress towards food security in many developing countries.

In view of the little interest of medium to large seed companies, the most effective alternative is to create effective and efficient smallholder seed enterprises with lower capital investment needs and reduced overheads. These enterprises, often made up of farmer organizations, are often close to smallholder farmers and located in farming communities, and should be able to distribute quality seeds of improved and local varieties of major food security crops effectively and efficiently. They are vital in linking the formal and informal seed sectors.

This Guide is based on the accumulated experience of the Food and Agriculture Organization of the United Nations (FAO in the seed sector) and lays out the necessary conditions and key requirements for the development of such smallholder seed enterprises in developing countries and how such processes can be supported. It also describes the necessary capacity development aspects involved in the establishment of smallholder seed enterprises (Table 3).





2.

Tailoring policies to seed industry's developmental stages





## 2.

### Tailoring policies to seed industry's developmental stages



#### Stages of development of the seed sector

The stage of development of the seed sector as described by many authors (Pray and Ramaswami, 1991; Morris, *et al.*, 1998; Maredia, *et al.*, 1999; Tripp, 2003; Kosarek, *et al.*, 1999) is a primary consideration for any planned interventions. The following section describes each stage of the evolution of the seed sector and the possible interventions which may be needed. Basically, there is a general transition from a strong public sector which takes the lead in seed production and control to a situation whereby the private sector in the form of local smallholders takes over these roles. National policies and legislation need to support the transition by encouraging linkages between research, extension, quality control and smallholders and by building systems of credit, tax breaks and/or subsidies as required. Tables 1 and 2 provide an overview of major characteristics and **main policy support priority activities** at each stage.



**Table 1: The stages of development of the seed sector and their main characteristics**

Stage	Main Characteristics
Pre-industrial	<p>Subsistence agriculture, traditional varieties or landraces grown from farm- saved seed or seed obtained through exchange with other farmers.</p> <p>Varietal improvement is in the hands of farmers.</p> <p>No formal varietal registration or quality control standards.</p> <p>No seed legislation, seed policies or intellectual property laws applying to seed.</p>
Emergence	<p>Farming is still primarily subsistence, but surpluses may be sold on fledgling markets.</p> <p>Some farmers adopt improved self- and open-pollinated varieties, fewer still experiment with hybrids.</p> <p>Public sector organizations begin plant breeding and producing seed. Most seed is still farm-saved, but increasing numbers of farmers buy commercial seeds.</p> <p>Public extension services play a key role in informing farmers of characteristics and benefits of new varieties and connecting farmers to sources of seed.</p> <p>Legal framework for control of seed industry begins to take shape, often by adopting standards from more developed countries and international organizations.</p> <p>Need for Intellectual Property Rights is still weak, as primary source of seed is still in the hands of the public sector.</p>
Expansion	<p>Increasingly commercial crop production, with more of the crop sold rather than for home consumption.</p> <p>Many farmers have adopted hybrid seeds of major crops, with very little farm-saved seed of these crops.</p>