Sustainable seed systems

Seeds are the foundation for agriculture. Access to quality seeds of crop varieties that are adapted to the needs and production systems of farmers is an essential feature of sustainable crop production. A sustainable seed system ensures that farmers have timely access to affordable quality seeds and planting materials of the most suitable crop varieties.

What FAO does

FAO’s work to improve farmers’ access to quality seeds addresses the needs for enhanced productivity and nutrition especially in response to climate change and population increase. It seeks to make available the widest possible diversity of well-adapted varieties. The interventions target the informal and formal seed delivery systems, and recognize the role of both the public and private sectors. FAO therefore works with government agencies, research and breeding institutions, seed enterprises and community based organizations in the development and operation of a sustainable seed sector value chain.

FAO assists Member countries in formulating and implementing seed policies and legislations to facilitate the growth and development of seed delivery systems within and between countries. Typically, policies and laws cover variety registration and release, plant variety protection, seed production, certification, packaging and labelling, marketing and biosafety. FAO also works with regional blocs to harmonize national seed regulatory frameworks. Regionally harmonized seed regulations facilitate cross-border movement of seeds and provide a broader market for seed enterprises and more choices for farmers.

FAO supports countries in raising the quality of the seeds used by farmers by strengthening national capacities to develop and implement internationally agreed quality assurance regimes. Enhancing the quality of seeds can increase the yield potentials of crops and is one of the most economical and efficient means to improve crop production and productivity.

FAO assists its Member countries in developing and improving national or sub-national programmes for seed production by strengthening national seed laboratories, training seed analysts and inspectors, organizing the variety release systems, and preparing national or regional variety catalogues. FAO also supports community-based seed production and...
distribution channels to ensure that small-scale farmers have access to quality seeds of the most suitable varieties in their communities, and to supplement what the formal seed sector can offer. Most of the seeds accessed through the informal system fall within crop groups that are not of commercial interest to the private sector, the bulk of which constitutes important food security crops.

FAO undertakes the rehabilitation of national seed systems after natural disasters and civil strife through the provision of assistance with the development and implementation of policies and the strengthening of relevant institutional and human capacities. By supplying quality seeds of appropriate varieties, affected and displaced households can resume and increase agricultural production rapidly thereby reducing or eliminating dependence on food aid responses to famine.

Background

Farmers, especially small-scale farmers in developing countries, often lack or have limited access to affordable, quality seeds and planting materials of crop varieties that are adapted to their production systems and growing conditions. This is due to both a lack of supply as well as inefficient distribution, inadequate quality assurance systems, and bottlenecks caused by a lack of enabling seed policies. Moreover, if seeds are of poor quality, there could be poor crop establishment, higher incidents of pests and diseases and ultimately, low yields.

Given the uncertainties of climate change, sustainable seed systems must ensure that farmers’ changing needs form the breeding objectives of research institutions so as to develop the most suitable and well adapted varieties. Through efficient seed production and distribution systems, farmers can take advantage of the benefits of these elite varieties.

Smallholder farmers very often must rely on farmer saved seeds or other unregulated channels to meet their needs for these inputs. In some countries, well over 70 percent of seeds, even of major crops, is managed within the informal seed system. The roles of both the public and private sectors in the seed value chain, i.e. variety development and release, seed production, quality assurance and delivery, should therefore be recognized and supported.

Countries need responsive mechanisms (including different forms and scales of seed enterprises and community-based production and distribution systems) for ensuring that farmers have access to quality seeds and planting materials of crop varieties that are adapted to their needs.