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## Participatory Plant Breeding — Institutional Innovation and Technological Change

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### Abstract

Farmer participation in plant breeding covers the whole spectrum of activities aiming at genetic improvement of crops, from setting priorities for a selection program, to generating new variability, identifying, evaluating and distributing new varieties, as well as the wide range of institutional options for farmer–scientist collaboration. Similarly the reasons for farmers and scientists to work together cover a wide range of goals and ambitions.

Over the past ten years experiences with farmer participation in plant breeding efforts have increased in overall numbers, have advanced in methodology for conducting trials and evaluating new materials, and have started to explore issues of scale. To illustrate key consequences from these changes in the running of breeding programs three types of examples shall be presented. The first set of examples covers methodological changes in the evaluation of finished varieties that lead to the identification of varieties preferred by specific farmers, to multiple releases, and can be the stepping stone for decentralized seed distribution systems. A second set of examples concerns the assessment of farmers' seed management practices that reveal particular strengths and weaknesses for building a coherent program of collaboration, and harnessing benefits on a larger scale. The third set of examples addresses cases in which farmers seek technical assistance from breeders to advance the development of their own varieties.

Conclusions from this overview cover issues of participation and scale, breeding strategies and selection criteria, linkages between variety development and seed distribution, quantifying benefits and impact monitoring.

**Keywords:** Farmers' participation in plant breeding, institutional innovation, plant breeding