

ReSeed: Building a Resilient Seed Innovation System

Project Summary

Mark Lubell, Andrew Latimer, Neil McRoberts, Mike Springborn, Liza Wood

ReSeed: Building a Resilient Seed Innovation System is a multidisciplinary, integrated research project with the overarching goal of enhancing the adaptive capacity and resilience of the global seed system with respect to climate change and associated environmental stressors such as pest and disease dynamics. ReSeed builds a collaborative research consortium that seeks to establish the vision, scientific basis, and relationships needed to facilitate seed system resilience. ReSeed is based on the concept of innovation systems, which analyzes not only the perceptions and decisions of private seed companies, but also the adaptation policies and decisions of the overall value chain, informal seed sector, grower groups, policy organizations and scientific community in which seed companies are embedded. ReSeed focuses on five basic questions:

1. What is the vulnerability of the seed system with respect to climate change?
2. What changes will occur in pest and disease dynamics and risk?
3. What are the costs and benefits of different adaptation pathways under uncertainty?
4. What are the main barriers to climate adaptation associated with managing and implementing adaptation pathways and innovation?
5. What is the structure of the seed innovation system, and how can it be changed to increase resilience?

The five questions are linked to the “adaptation cycle,” which outlines how adaptation requires iteratively moving from understanding the problem, to planning for different adaptation actions, to managing those actions (Figure 1). While the adaptation cycle is somewhat sequential, the boundaries between the stages are fuzzy and the cycle repeats over time. ReSeed integrates our research questions into this overall cycle, and includes stakeholder engagement at each stage in order to produce tangible outcomes that will enable actors within the seed system to make more adaptive decisions.

Figure 1: Adaptation Cycle for Seed Innovation System

