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"Resilience of agricultural systems against crises"

Strengthening Local Adaptive Capacity: The Key to Resilience in the Face of Climate Change

Ann Waters-Bayer[1], Chesha Wettasinha[1], Yohannes Gebre Michael[2], Saidou Magagi[3], Laurens van Veldhuizen[1]

[1]*ETC Foundation, Prolinnova International Support Team, Germany*
[2]*Addis Ababa University, Ethiopia*
[3]*National Agricultural Research Institute, Niger*

Abstract

Climate change poses countless challenges for smallholders, yet the initiatives of these smallholders to respond to change offer entry points to sustainable processes of climate-change adaptation. Partners in PROLINNOVA – a global network for Promoting Local Innovation in agriculture and natural resource management – studied how crop farmers and pastoralists responded creatively to change. For example, pastoralists in Ethiopia observed longer and more frequent drought, but also population growth, less access to grazing and water because of irrigation schemes and national parks, and increased conflict. Their responses include cutting and carrying fodder from national parks, making private and community below-ground cisterns to store water and diversifying their herds to include more goats and camels that can withstand dry periods better than can cattle. Local adaptation in Niger included making more use of donkeys than in the past and collecting hay from communal land to use as dry-season fodder. Such local innovations serve as entry points for farmer-led joint research – a process in which scientists and extensionists join with farmers to further develop the local ideas, integrating local and scientific knowledge. This approach to research and development focuses on the positive – on farmers' innovativeness; it builds mutual respect among all partners in joint research; it stimulates farmers to value their own knowledge and skills; it provides solutions that are less costly and more site-appropriate than many introduced technologies; it enhances the confidence of farmers and gives them greater control over their own development. Above all, it builds the adaptive capacities of rural communities to deal with change. Local people involved in this process are better able to analyse their situation, learn to pool their energies and knowledge, and become better linked with other actors with whom they can continue to take adaptive action to address emerging problems. They thus become more resilient to shocks and stresses in a constantly changing environment.

Keywords: Climate-change adaptation, Ethiopia, indigenous knowledge, interactive research, local innovation, Nepal, Niger, resilience, smallholders

Contact Address: Ann Waters-Bayer, ETC Foundation, Prolinnova International Support Team, Rohnsweg 56, 37085 Göttingen, Germany, e-mail: ann.waters-bayer@etcnl.nl