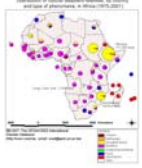
How research is improving response in *really* high stress systems: emergency seed aid in Africa

L. Sperling (CIAT), T. Remington (CRS), H.D. Cooper (CBD), S. McGuire (ODG), J.M. Haugen (CARE), S. Nagoda (Caritas), Teshale A. (EIAR), J. C. Rubyogo (CIAT)

Why *research* has to be involved in disaster R&D

There are increasingly compelling reasons for direct public sector research input:



The incidence of disasters is rising (ongoing?) in many of our core countries

Interventions unfold in more vulnerable social + agricultural systems

$$$ Impressive sums are spent in disaster periods , often more than in routine agricultural development. Research should steer funds to support, not undermine , systems

Much of 'emergency' work is not in acute stress or disaster contexts at all. Rather, the lion's share is in chronic stress, marginal areas, where R&D has failed to have much-needed impact

Example: Ethiopia has received seed aid since 1974, and near continuously since 1982- (34 years) This has cost an estimated $US 500 million.– and there is modest (no?) evidence of seed system strengthening

Sperling at al. 2007.

What farmers have to say

photo: CRS/E..McGaw

Humanitarian practitioners fall into particular 'camps' around the aid approaches they favor. Direct Seed Distribution (DSD) proponents praise its ability to access 'good quality' seed and its simple logistics of procurement and delivery. Cash or voucher supporters cite enhanced farmer choice and greater circulation of project money within local economies.

However, the view from farmers is a much more nuanced one. No one approach *a priori* is better than another. They seek aid which : has little room for manipulation; gives a product they want; and which especially *allows them to strategize.*

Studies clearly show how farmers' strategize with emergency assistance. They may: choose their priority crops and mix modern and farmers varieties, obtain seed for the following season, wait to obtain the correct varieties based on last-minute observation of rainfall patterns, explore new crops/varieties, or obtain specific adapted crop types no longer available locally.

What research highlights especially is the degree to which farmers want and can be engaged as active agents, rather than as 'victims' in stress periods.

McGuire and Sperling, (in review, 2008)

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Partners

Scores of partners have been involved at different phases of this work, all receiving due recognition on published volumes. Listed below are collaborators who have contributed to multiple products and processes.

CIAT Scientists: R. Buruchara, R. Chirwa, J.C. Rubyogo, L. Sperling

Other CG Centers/Networks (especially in Seeds of Hope): IITA, ICRISAT, WARDA, CIMMYT, CIP, Bioversity , PRAPACE

NARS: Ethiopia, Kenya, Burundi, Rwanda, Uganda, Malawi, Zimbabwe, Tanz., DRC

Africa Regional organizations: SADCC-Seed Security Network

UN Agencies: FAO

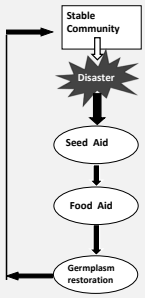
NGOs: CRS, CARE, SC-USA, World Vision International and Ethiopia, Concern International, Action Aid, Overseas Development Institute, VeCo, REST.

Universities: University of East Anglia, Wageningen University., Norwegian University of Life Sciences.

Donors: *Special recognition for Laura Powers, Julie March and Eric Witte of USAID and Wardie Leppan of IDRC.*

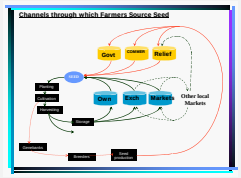
Key roles of *research* in improving disaster response

❖ Understanding how disasters affect seed systems and farmer vulnerability



During drought, flood, short war and long-term civil strife, research shows that local seed systems are generally remarkably resilient . Some seed comes from home stocks, and local seed grain markets fill in for the rest.

In fact, even when seed aid is given, farmers often prefer to sow from local sources (including markets) as they know the varieties and trust the sellers This was true of even in extreme cases, such as post the Rwanda civil war and genocide in 1994, and in Afghanistan, 2002-03.



adapted from Almekinders and Louwaars (1999).

Disaster strikes: what happens to seed systems?. Common stereotypes assume that systems breakdown and that seed (and varieties) become unavailable and need to be supplied , quickly!. So the engine of food aid triggers a chain of support activities, including seed aid, and possible germplasm restoration.

Extensive field evidence shows these assumption on seed systems to be *wrong.* Rarely do they totally collapse and even more rarely is 'seed availability' the problem.

Importance of relief and market in farmers' seed supply, during disaster periods

Country	Trigger stress/ year	Crop	% of seed planted obtained through relief	% seed obtained through local market
Zimbabwe	drought/ political instability/2003	Pearl millet	12	n/a
Rwanda	civil war/1995 (2 seasons)	Beans	6,- 28	26- 52
Kenya	drought/1997	Maize	11	39
Somalia	drought/2000	Sorghum		
Deyr			10	25
Gu			17	25
Somalia	drought/2000	Maize		
Deyr			3	33
Gu		Range of	3	43
Afghanistan	civil strife 2002-2003	crops	5.4-7.2	n/a

Sperling, Cooper and Remington, 2008

❖ Guiding implementation : what works, what doesn't, what harms

For farmers to be seed secure, three conditions must be met seed has to be available; farmers need to be able to access it; and the quality has to be sufficiently to promote healthy seed system functioning.

Three essential elements of seed security

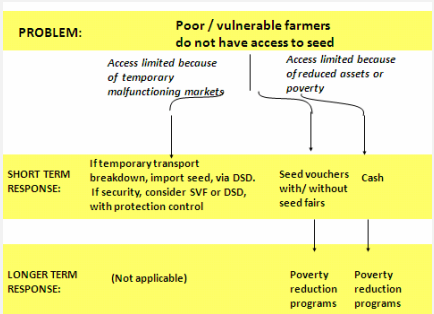
Element of seed security	Description
Availability	Sufficient quantity of seed can potentially be obtained within reasonable proximity (spatial availability) and in time for critical sowing periods (temporal availability).
Access	People have adequate cash or other resources (for example, financial credit or friends and relatives willing to help out) to buy appropriate seed or barter for it.
Quality	Seed is of acceptable quality: it is healthy and useable, and its varietal attributes (genetic traits like size, shape and taste of grain) are acceptable to the farmer.

Remington et al, 2002

Stress (i.e. different kinds of disaster) rarely undermines all three conditions simultaneously. By far, the most common post-disaster seed-related problem farmers face is reduced access. This happens as market prices go up, or because farmers no longer exchange seed, or because farmers suddenly have a long list of rather urgent needs (e.g. crucial medical assistance), just when their assets have gone down.

An actual scarcity of seed, a problem of availability, is rare. It may happen when farming systems are wiped out en masse, such as with major floods. Quality concerns usually emerge only with large-scale outbreaks of pests or diseases, such as Cassava Mosaic Disease (CMD) in East Africa. In this case, the varieties routinely planted by farmers may no longer be suited to local biological conditions.

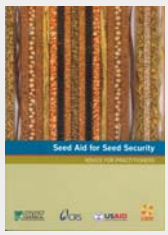
The immediate challenge is to link specific seed security problems with targeted action. Misplaced responses have had various consequences: e.g. making farmers even more vulnerable, undermining local and formal markets, creating dependencies.



Source: Sperling, 2008

❖ Developing strategic tools

- Assessing Seed Security
- Agrobiodiversity + Seed Relief
- New Varieties + Seed Relief
- Understanding what farmers use: focus on markets
- The Power of Evaluation
- Checklist for Seed Aid Proposal Development



Scientific findings need to be packaged as practical advice, geared for change These seed aid practice briefs have been downloaded by over 25,000 users: in English French and Portuguese.

In addition USAID/OFDA, the world's major emergency aid donor, has posted this practice brief link on its government website, right next to the grants section.

Forthcoming (May 2008): When Disaster Strikes: Guide for Assessing Seed Security. [L. Sperling: Rome, Italy: CIAT]

http://www.ciat.cgiar.org/africa/practice_briefs.htm

❖ Shaping enabling policies: international and national

FAO: Basic Guiding Principles for Seed Relief

Policies have to enable better practice in concrete ways – and need to keep match state-of the art knowledge . Our analyses promoted revised international guidelines for seed aid within the UN system. Adopted 2004, new guidelines advise that (*inter alia*) : the type of aid given should be tailored to the context (drought, war, flood) , that aid should built on understanding of seed systems farmers routinely use (informal as well as formal) ; and that farmers have the right to choose, even during an emergency.

http://www.fao.org/docrep/007/y5703e/y5703e00.htm

As of February 2008, the nation government of Ethiopia is also launching a process for seed aid guideline development.

For additional information contact l.sperling@cgiar.org or see website http://www.ciat.cgiar.org/africa/seeds.htm