

Seed Aid for Seed Security

ADVICE FOR PRACTITIONERS

Overview of Seed Systems Under Stress Project: *Case Studies*

Seed relief studies, managed by CIAT, CRS, and CARE Norway, have been published in a volume entitled *Addressing Seed Security in Disaster Response: Linking Relief with Development* (see below for availability). The eight case studies were undertaken to evaluate various forms of emergency seed aid and to document how seed stress is diagnosed and how interventions are designed in concrete contexts. The objectives were to understand whether and how vulnerable farmers are being helped by the kinds of assistance they receive – and how to move forward to improve practice.

The work unfolded over a two-year period in seven countries in Africa. In each case study the seed-aid practitioners were directly engaged in the evaluations and reflections, so that lessons learned could immediately influence the next steps of practice. It is to the credit of participating national agricultural research systems (NARS) and nongovernmental organizations (NGOs) that they were willing to take a hard look at the effectiveness of their interventions. Equally, the donors, USAID/OFDA and the Ministry of Foreign Affairs Norway, are to be lauded for promoting substantive follow-up on emergency assistance, because such follow-up is rare.

Table 1 gives a broad overview of the major features of the case studies: the countries in which they were undertaken, the stresses that originally triggered a decision to supply seed-related assistance, and the types of interventions that were implemented.

TABLE 1
CIAT/CRS/CARE Norway Project: Major Descriptors

Case study descriptors	Content
Countries	Burundi, Ethiopia, Kenya, Malawi, Mozambique, Uganda, Zimbabwe
Trigger Stresses	Drought, civil strife, flood, plant disease (and crop breakdown), distorted political economy
Interventions	<ul style="list-style-type: none"> · Direct seed distribution · Seed vouchers and fairs · Starter packs and targeted input distribution · Community-based seed production · Introduction of new varieties
Crop foci	Maize, beans, cassava, sorghum, rice, millet, cowpeas, bananas, sweet potatoes also: wheat, barley, vanilla, cocoa, moringa

The eight seed relief case studies ask if and how vulnerable farm families are being helped by the emergency assistance received

Each case was chosen to be somewhat unique, in order to build up our body of knowledge concerning seed system relief. However, they all provide details on how the seed problem was initially assessed, the type of interventions that unfolded, and an *ex-post facto* evaluation of their effectiveness. Five of the cases address key features of specific interventions (such as introductions of new varieties), while three present overviews of the practice and evolution of seed aid on a country-wide basis.

Major features – case by case

- The eastern Kenya case compares the effectiveness of Direct Seed Distribution (DSD) and Seed Vouchers and Fairs (SV&F), funded during the same period of the 1990s. Aspects such as number of beneficiaries reached, diversity on offer, financial costs, and spin-off effects (for example possible community empowerment) are considered.
- The northern Burundi case looks closely at how small traders (generally a specialist group) have been among the primary beneficiaries of seed vouchers and seed fairs. It gives insight into the type of trader involved (gender, scale, barriers to entry), the investment of trading proceeds into the local system, and opportunities for introducing innovations (including new varieties) *via* established traders.
- The western Uganda case explores the ability of seed vouchers and fairs to supply farmers with seeds of preferred crops and varieties, and the effects of offering a wide range, even in a relief intervention. It also examines the degree to which the SV&F approach makes use of and bolsters the agrobiodiversity available in the wider farming systems, by comparing which crops and varieties are offered at the fair – and which are not.
- The western Kenya case looks at the effectiveness of different seed channels (informal seed producer groups, local seed/grain markets) for moving new bean varieties during a period of dramatic production decline. Speed and extent of diffusion, as well as the quality of seed put on offer, figure as key assessment variables.
- From northern Mozambique, the study presents the challenges of responding to crop breakdown of the vegetatively-propagated staple, cassava, which was devastated by virus. Challenges of moving plant cuttings quickly and of diversifying in areas of single crop monopoly are analyzed.

- The Malawi, Zimbabwe and Ethiopian cases analyze the longer-term patterns and effects of repeated seed aid. Lack of seed security assessments to address targeted problems, the emergence of a separate ‘Relief Seed System’ and the use of standard default responses (Direct Seed Distribution evolving to Community-based Seed Production) are among the trends examined.

Overview lessons: select findings

The project also synthesized findings from across the different cases. We present several of the most important results below, but refer the reader to the full volume for more elaborate insight (Sperling et al. 2004, see below for availability).

Relief organizations are generally using an ‘acute’ response – seed aid – to treat what are more often ‘chronic’ poverty-based problems.

Emergency seed system assistance was delivered in six out of the eight cases examined in response to what was characterized as an acute stress (that is, an event of short-duration). However, more in-depth analysis, in each of the six cases, showed the problems to be more chronic and systemic in nature, for example declining productivity, water-related stress, ongoing civil unrest, and misplaced political policies.

The other two cases, both of crop breakdowns (one in western Kenya with beans and the other in northern Mozambique with cassava), were the only ones in which prior assessments actually took place.

These revealed that the ‘acute manifestation’ was also due to more systemic pressures, including the build-up of plant disease, lack of crop rotations and declining farm sizes.

**TABLE 2
Chronic Seed Aid Distribution**

Country	Seed Aid Distributions
Burundi	22 seasons since 1995
Eastern Kenya	1992/93, 1995/97, 2000/02, 2004
Ethiopia	Food aid 22 years since 1983/84. Seed aid on and off much of the time
Malawi	12 seasons or more
Zimbabwe	13 years (food aid, seed aid, or both)

The result of an ‘acute’ response in a more chronically stressed context is that the problem is not alleviated and that seed system assistance is then needed repeatedly.

Chronic seed distribution is resulting in the emergence of a Relief Seed System.

Seed aid distribution is taking place in an alarmingly large number of countries: one season, two seasons, three seasons, and beyond. Giving seed aid is itself becoming a chronic activity. Table 2 summarizes the number of years seed aid has been given in several countries. There seem to be few checks for stopping such assistance (simply when funds dry up?) and deliberate exit strategies have not been planned.

The rise of a chronic seed aid system has been identified as a profitable business opportunity for entrepreneurs, who specialize in quick delivery of a small range of crops. It has also led to the rise of a separate Relief Seed System (see cases from Ethiopia and Zimbabwe).

No diagnosis and a mis-assumption of seed availability problems has been triggering seed-related disaster responses.

The lack of any diagnosis related to the seed system is a widespread problem (see Brief No. 7). In the absence of seed-related needs assessment, the default option has been to assume that there is a lack of available seed. Two sources of information indicate that this automatic assessment of lack of availability is often incorrect in the extreme.

- A growing number of studies have traced where farmers in disaster situations sourced the seed they planted – in areas where seed aid distribution had taken place. Table 3 indicates that in contexts where precise data were examined (and with larger sample sizes), relatively little of the seed sown came from emergency aid. Seed had been available in local channels, and particularly from local markets.
- Seed availability has also been assessed via those who may supply seed in crisis periods: the local seed and grain traders. In Burundi, where seed aid has been given since 1995, 41 traders recounted their experience with seed sourcing over the past 10 years of drought and war. Thirty-seven indicated that there had never been a

problem with availability. The other four nuanced their answers, with only one trader suggesting an absolute lack at one point in time (see case study from Burundi).

TABLE 3
Importance of Relief Seed in Farmers’ Overall Supply during Disaster Periods

Context	Crop	% of seed sourced via relief*
Zimbabwe: drought and political instability 2003	Pearl millet	12
Rwanda: war 1995	Beans	28**
Kenya: drought 1997	Maize	11
Somalia: drought 2000	Sorghum	10-17
Somalia: drought 2003	Maize	3

* See Sperling et al., 2004 for full data sources

** The figure of 28% came from the first seed distribution, two months after intensive fighting ceased. Relief seed was then distributed again for the next major planting in January 1996, and only 6% of the bean seed came via relief channels.

Only two types of case have been identified when availability of seed in a disaster context may be a fundamental constraint. First, where local seed on offer is no longer adapted to local growing contexts (for example in eastern Kenya, due to bean root rots, and in northern Mozambique, due to cassava brown streak). And secondly when there have been substantial shortfalls in production and local markets have never sufficiently developed to deliver seed or planting supplies. (Local markets prove particularly important as sources of seed in crisis, see Brief No. 6).

Seed availability is not necessarily the problem during emergencies. Practitioners need to understand the real constraints and opportunities – before they respond.

In terms of implementation, there seems to be a broad default pattern, from direct seed distribution (DSD) to community-based multiplication schemes (CBMS).

At present, a relatively narrow range of responses are employed to bolster seed systems in stress. Diagnoses being minimal, the evolution of a seed-related assistance pattern is well established (see case studies from Malawi, Zimbabwe and Ethiopia). During emergencies, institutions jump to direct seed distribution (DSD). During recovery, they move to community-based multiplication schemes (CBMS) schemes. So seed system assistance tends to be characterized by people doing what they already know, rather than what might be best under the particular circumstances.

Misplaced seed-quality parameters in emergency response result in overemphasis on seed health to the detriment of genetic quality.

Issues of seed quality shape the types of seed assistance that can unfold. Quality issues most often focus on whether the seed is certified or not (as many donors require formal verification as a prerequisite for emergency seed procurement). Stereotypes typically equate certified and formal

sector seed as being of high germination and good seed health, while farmer seed (home-produced and procured from the market) is typically judged to be of poor quality. Case studies show that such labels can be deceptive. The quality of formal-sector seed may not be as advertised (as in the case from western Kenya), while emergency-grade seed overall is of highly variable health and genetic quality (the case from eastern Kenya). Farmer seed and market seed has also proven to be of good quality, as assessed in laboratory analyses (western Kenya).

The focus on seed health has diverted attention from what is probably the more important quality issue for seed: at the very least, the seed on offer must be adapted to the environmental conditions at hand. Genetic quality, in practice, has been given second priority in emergency responses. Varieties emerging from formal research sectors or on offer from commercial companies are assumed 'good enough', whether or not they have been selected for use in the regions of stress or for growing under the recipients' management conditions.

For full documentation see:

Sperling, L., Remington, T., Haugen, J.M., and Nagoda, S., eds. 2004, Addressing seed security in disaster response: linking relief with development. Cali, Colombia: International Center for Tropical Agriculture. Available for download from http://www.ciat.cgiar.org/africa/pdf/emergency_seed_aid_case_studies.pdf