Seed Aid for Seed Security

ADVICE FOR PRACTITIONERS

Understanding Seed Security

Inherent in the decision that seed aid is needed is an assumption that farmers themselves are not able to secure seed for their normal planting periods. Farmers' ability to secure seed is described by the concept of seed security.

The concept of seed security (and its inverse, insecurity) is often nuanced by two broad sets of parameters: duration (are the problems short or longer-term?) and the different features needed to ensure security (if there are concerns, what types of diverse problems might farmers encounter?). We discuss both in this introduction to the concept of seed security.

Seed insecurity comes in many guises. Chronic insecurity differs from acute insecurity and the elements of seed availability, access and quality need to be examined independently. Understanding seed systems and seed security properly will lead to more effective seed-related assistance

Distinguishing between Acute and Chronic Seed Security

To understand seed security it is important first to distinguish between acute (short-term, transitory) and chronic (longer-term, long-lasting) seed security issues.

Acute Seed Insecurity

Acute seed insecurity is brought on by distinct, short-duration events that often affect a broad range of the population. It may be spurred by the failure to plant in a single season, the loss of a harvest, or by high levels of infestation of stored seed stocks. While during normal times households may variously be identified as seed secure, semi-secure, or always seed-short, all may be affected during an acute event such as a flood or short civil disturbance. Those farmers who recover quickly, with or without one-off seed-related assistance, are often those who have suffered only acute stress. Note that acute food stress (and the need for food aid) is not necessarily followed by seed stress (and the need for some form of seed aid). Seed systems can be very resilient, and, for some crops (e.g. sorghum), small amounts will satisfy farmers' practical sowing needs.

Chronic Seed Insecurity

Chronic seed insecurity is independent of acute stress or disaster, although it may be exacerbated by it. Chronic seed insecurity may be found among populations who have been marginalized in different ways: economically (for example, poor, little land, little labor); ecologically (for example, repeated drought, degraded land); or politically (in insecure areas, or on land with uncertain tenure arrangements). Populations that suffer chronic seed insecurity may be characterized by:

- Continual shortage of adequate seed to plant.
- Difficulties in acquiring seed off farm due to lack of funds.
- The routine use of low quality seed and unwanted varieties.

The result is households with a built-in vulnerability to seed system calamities.

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Reflections on the relationship between acute and chronic insecurity

Acute and chronic seed insecurity will very often exist together during an emergency. Indeed, in cases where emergencies are recurrent events, for example in drought-prone areas, acute situations are nearly always superimposed on chronic problems that are rooted in poverty. Figure 1 aims to show conceptually the relationship between acute and chronic seed insecurity. At any given normal time a portion of the agricultural population, usually the majority, are seed-secure, with the poorest being those who fall below the theoretical security line. In a disaster, all may be affected to some degree, as harvests may decline overall and some seed stocks may be lost.

However, those just above the margins of security may fall into chronic seed stress if alleviating actions are not sufficient. Similarly, those already in chronic stress may not recover above the line into seed security if they are simply assisted with one-off injections of seed aid.

Analysis of seed insecurity in the field reveals two trends in the relationship between acute and chronic contexts.

- First, there is increasing evidence of a general transition from acute to chronic seed insecurity, rather than the presumed goal of recovery. This occurs because various forms of quick relief, such as the free distribution of improved varieties, can undermine the functioning of local seed systems, alter more robust crop profiles, and create marked dependencies. Thus, it is alarming – but not surprising – that in the year 2000 farmers in the Tana Region of Kenya routinely listed 'seed relief' as one of the basic channels by which they count on accessing seed season after season.

- Secondly, closer analysis is showing that many of the aid cases originally considered acute exhibit aspects of more chronic stress. Six out of the eight seed intervention cases we examined in this project (see Brief No. 2) show acute aid being implemented in situations that are primarily chronically-stressed, with such seed aid being delivered not as a one-off intervention, but repeatedly. Acute emergency measures are being implemented in lieu of possibly more effective and more long-term support. This is not a new insight – but it is one that has yet to change practical responses to major seed emergencies.

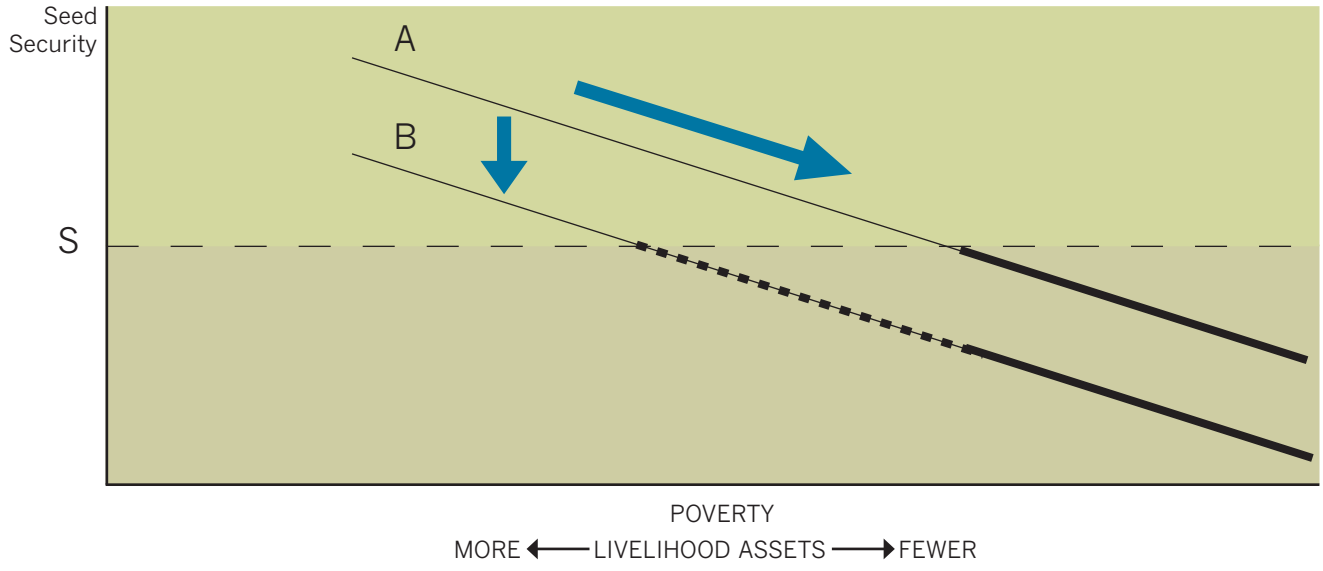

FIGURE 1: The relationship between seed security and poverty, in times of acute and chronic stress.
Line A represents a stylized relationship between poverty (x axis; expressed in terms of assets) and seed security (y axis). The point S represents an arbitrary seed security threshold: above the broken line is seed security, below it seed insecurity. In locales for most interventions, in normal times, a proportion of the population, represented by the thicker portion of line A, is chronically seed insecure. In an emergency, two things may happen: (1) livelihood assets may decrease, so the entire population will move down the line, such that more of the population will be seed insecure by virtue of their increased poverty; (2) there may be a shift downwards of the entire line to B, perhaps due to short-term problems of seed availability or access. Either way, a larger proportion of the poor, the vulnerable population, will become seed insecure, as represented by the additional, dashed part of line B.

Distinguishing among the Dimensions of Seed Security: The Seed Security Framework

The concept of seed security embodies several diverse aspects: differentiating among these is crucial to promote those features that foster seed security as well as to anticipate the varied ways in which such security might be threatened.

The Seed Security Framework in Table 1 outlines the fundamental elements of seed security: seed has to be available, farmers need to be able to access to it, and the seed quality must be sufficient to promote healthy seed system functioning.

TABLE 1
Seed Security Framework: Basic Elements

Parameter	Seed Security
Availability	Sufficient quantity of seed of adapted crops are within reasonable proximity (spatial availability), and in time for critical sowing periods (temporal availability).
Access	People have adequate income or other resources to purchase or barter for appropriate seeds.
Quality	Seed is of acceptable quality and of desired varieties (seed health, physiological quality, and variety integrity).

Availability is defined narrowly as whether sufficient quantity of seed of target crops is present within reasonable proximity (spatial availability) and in time for critical sowing periods (temporal availability). It is essentially a geographically-based parameter, and so is independent of the socio-economic status of farmers.

Seed **access** is a parameter specific to farmers or communities. It largely depends upon the assets of the farmer or household in question: whether they have the cash (financial capital) or social networks (social capital) to purchase or barter seed.

Seed **quality** includes two broad aspects: seed quality per se, and variety quality. Seed quality consists of physical, physiological and sanitary attributes (such as the germination rate, and the absence or presence of disease, stones, sand, broken seed or weeds). Variety quality consists of genetic attributes, such as plant type, duration of growth cycle, seed color and shape, palatability and so on (see Brief No. 6).

In using the framework, it is important to emphasize that the distinction between availability and access is dependent on scale. At some level, if one is willing to pay enough to transport seed from far enough away, seed is always available. Likewise, the concepts of availability and quality are interrelated. If seed is available which will grow and mature to harvest, but which is of otherwise low quality or of unwanted crops or varieties, this constraint would usually be considered under the quality parameter, but one could question whether appropriate seed is available at all.

More Refined Analyses of Seed Security Leading to More Targeted Appropriate Responses

Formal definitions of seed security are fairly recent, as is the notion that seed security assessments need to be distinct from those that focus on food security. In standard field practice, food security assessments inevitably assume that food insecurity means seed insecurity. The cause of this seed insecurity is also invariably diagnosed as a problem of availability;

TABLE 2
Seed System Problems and Broadly Appropriate Responses

Parameter of the problem	Acute (short-term)	Chronic (longer-term)
Unavailability of seed	Direct distribution of seed (possibly for sale)	Support development of seed production, including commercial enterprise, where viable
Poor and vulnerable farmers do not have access to seed	Cash disbursement Seed Fairs with vouchers or cash Local procurement and distribution	Poverty-reduction programs: e.g. support development of • Income-generating activities • Agro-enterprises

that is, there are not enough seeds in a region. A better understanding of the seed security concept, along with informed used of a seed system security assessment tool (see Brief No. 7), should help lead to more targeted diagnoses of problems at hand as well as to more targeted responses.

Using the two aspects of seed security outlined above, Table 2 gives examples of more targeted responses to seed insecurity, to address explicit constraints in seed availability, access and quality in the short-term (acute) and long term (chronic). (See also Brief No. 7 for a more extensive analysis.) So, for example, if 'seed availability' is assessed as the problem, seed-based interventions, such as seed importation (for acute shocks) or development of community-based seed production enterprises (for chronic stress), may be appropriate. However, a diagnosis of 'seed access' might wisely trigger a more holistic analysis of livelihood strategies. In the acute phase, providing farmers with cash or vouchers to get their desired seed might be on the mark to address short-term problems of access. However, an identification of chronic access problems should lead practitioners to look well beyond seed and seed security constraints. The inability to access a certain necessary good on a repeated basis is usually equated with problems of basic poverty. Initiatives to help farmers generate income and strengthen their livelihood base would be essential here.

Finally, we emphasize that lack of use of a Seed Security Framework (availability, access, utilization) and an acute *vs* chronic perspective has generally resulted in few explicit assessments of seed security to date. Getting a better handle on the concept of seed security is but a first important step toward designing seed security related interventions that effectively address the real problems at hand.