Persistent Myths About Emergency Seed Aid

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Abstract

Seed interventions are the major agricultural response during emergency and recovery phases of humanitarian relief. They are implemented by diverse agencies, and widely promoted: for instance the FAO alone managed 400 such projects between 2003 and 2005. However, seed aid suffers from a lack of critical attention, perpetuating widespread myths among practitioners, policymakers, and the larger humanitarian community. This paper challenges five predominant myths about seed aid: 1) Seed aid is needed whenever food aid is; 2) seed aid can do no harm; 3) disasters wipe out seed systems; 4) effective implementation is a straightforward logistical exercise, and; 5) improved seed is the best form of aid. These myths are juxtaposed with recent empirical work across a range of countries, particularly in Eastern and Southern Africa. The perpetuation of such myths highlights a serious absence of scrutiny of emergency seed aid, and helps explain why such aid is repeated year after year in many sites, with little apparent positive effect. The paper argues that the invisibility of seed aid is a major cause for the lack of oversight and concludes that donors and farmer beneficiaries must become centrally involved in seed aid governance.

Keywords: humanitarian relief, seed aid, governance, Africa, disaster, improved seed

1. *INTRODUCTION*

Emergency agricultural assistance seeks to accelerate farmers' recovery from crises such as drought or short-term conflict, aiming to help them continue with crop production in the short-term, and reduce vulnerability to future stress. Emergency seed aid is the most common example of this type of assistance and has been extensively implemented; for instance, the FAO alone managed 400 such projects between 2003 and 2005 [1] and, in response to the current food crisis, has seed aid plans for 48 countries [2].

However, despite its ubiquity, there is little critical scrutiny of emergency seed interventions, [viz. 3] which often are viewed as largely logistical exercises, and lumped in with other 'non-food' forms of humanitarian relief. Critical analysis is sorely needed of seed aid interventions, whose impacts can be long-term (negative as well as positive) and whose popularity is underpinned by often hidden institutional agendas.

This paper aims to stimulate more critical analysis of seed aid practice by highlighting five central myths which shape it. These myths have led to the delivery of inappropriate seed aid, as well as seed aid which simply is not needed. We use the term 'myth' advisedly as each represents a widespread view, reflected by prevalent practice on the ground, and documented in this paper with evidence drawn particularly from east and southern Africa, where much of emergency seed aid unfolds. Dominance of these myths gives a sense of the scope of much-needed reform. The final section suggests reasons why the field of seed aid to-date has been so weakly governed, and presents priorities for moving forward.

2. *Emergency Seed Aid*

2.1 Rationale

Emergency seed aid targets farmers' seed insecurity, helping them secure access to sufficient and desirable planting material in time for sowing. It has long been regarded as an innovative and empowering approach to aid, by providing farmers with the means to produce food for themselves. Thus, seed aid is commonly seen as a cost-effective way to limit dependency on food aid and speed post-crisis recovery [4]. It has also been portrayed as promoting resilience, helping farmers cope better with future crises, though the evidence for such claims remains patchy [5]. The widespread view that emergency seed aid can provide an effective link between relief and development helps explain its considerable, and growing, popularity. Since the 1990s, many relief agencies engage in seed aid as a routine complement to food aid.

2.2 Scope of seed aid

Several types of seed-related interventions currently take place in high stress periods. Broadly, these can be distinguished between direct aid approaches which obtain and distribute seed directly to beneficiaries (and generally assume 'a lack of available seed'), and more market-based approaches where farmers are given vouchers or cash to purchase their own seeds locally (and so assume a 'lack of access to seed' as the main constraint) [6]. Still other approaches blend relief with development goals around improved seed production or promotion of modern varieties. Direct distribution approaches continue to dominate actual projects [4].

Emergency seed aid is not a small or specialized practice, but rather is implemented by a wide range of NGOs, governments, and international agencies. For instance, a conservative estimate is that US$ 500 million has been spent just in Ethiopia on seed aid since 1974 [7]. The FAO alone spent US$ 358 million on emergency operations in 2007 (a four-fold increase from 1998), with rehabilitation and risk reduction in crop systems, including seed activities, accounting for US$ 93 million (T. Osborn, *Pers. Comm.* January 2009). This upward trend is expected to continue as climate change-related stress, or other shocks such as the 2008 food price crisis, lead to short term seed-related emergency responses, delivered to boost immediate food production. Seed aid interventions are widespread throughout sub-Saharan Africa and parts of Asia. They can also be intense in a single location; for instance, in one Ethiopian district (Humbo, in the Wolaita Zone of the South), five different donors and seven different implementers were involved in seed aid between 2003 and 2005 [7]. Further, seed aid can be highly repetitive; for instance, Burundi received seed aid continuously for 26 seasons (13 years) [4].[3]

Surprisingly, given its geographical scale and status as the most significant form of agricultural relief, seed aid continues to have a low profile. Few outside those directly involved appreciate its scope (for instance, Ethiopian policy-makers were shocked to learn of the scale and expense of aid in their country; A. Deressa, *Pers. Comm.* July, 2007). Its low profile is not helped by poorly-kept records of actual seed aid implementation, and the almost complete absence of evaluations of

[3] Seed aid here refers to seed-related assistance tied to the results of a particular season or seasons. It does not include the more developmental types of input aid used to promote general production gains. The latter group would include the starter pack programs implemented in Malawi, for example.

seed aid. Implementers often regard seed aid as a one-off emergency intervention, and few have the wherewithal or schedule the time or resources to assess its effects. The few evaluations that do exist tend to be conducted internally immediately after the event, and concentrate on operational practicalities or on simple output indicators, such as numbers receiving seed [e.g. 8, 9]. This narrow and output-focused approach to reviewing seed aid reflects a general view that it is largely a routine exercise, where the primary concerns are around logistics and delivery. Wider questions of immediate effect and longer-term (including possibly negative) impacts are generally ignored.

The scale, scope, and repetitive nature of emergency seed aid demand attention. Do organizations know enough to do seed-related assistance properly? What stakeholders are involved in designing seed aid? What relationships are needed to enhance the positive impacts of aid and diminish its negative effects? We now examine some of the widespread myths about seed aid to underscore the importance of these above questions, and highlight deficiencies in the governance of seed aid.

3. *FIVE MYTHS ABOUT SEED AID*

The potential hazards and shortcomings of inappropriate seed aid are examined elsewhere in detail [4, 5]. Here, we present five of the more widespread and problematic myths, which can contribute to ineffective practice.

3.1 If food is needed, seed is needed.

The most common justification given for seed aid is a decline in crop harvests due to drought, floods, low-level conflict, or other shock. The underlying logic is that a drop in crop production translates directly to less (or no) seed for the following season. For instance, many of the seed aid guidelines used in Ethiopia state that if production drops below 50% of normal levels, 'seed aid should be dispensed' [7]. The assumed linkage between crop production and seed availability is so embedded that seed aid funding proposals, particularly in Southern Africa, commonly cite 'drought' as the reason for an emergency intervention [e.g. in an appeal for aid to seven countries; 10].

However, it is incorrect to equate seed insecurity with food insecurity. Seed security can be defined as "farming households (men and women) [having] access to adequate quantities of quality seeds and plant materials of adapted varieties at all times - good and bad " [11: 187]. While related to food security, it is not identical. Even if all seed comes from their own harvest, farmers often need only a small proportion of the crop to re-sow the following years, as this illustration from northern Mali shows (Table 1). Another example, from an area of eastern Ethiopia which receives near annual food and seed aid, emphasizes the same trend (Table 2). Even in very poor seasons, when production is less than a fifth that of good seasons, farmers would need only 10% of that low harvest to re-sow their fields. Put another way, a production shortfall of >80% (which would lead to food shortages) would still leave enough for seed the following season. This observation, that a fraction of the harvest is required to meet seed needs, holds true for most of the dominant small-seeded crops of dryland Africa. The trend is somewhat different for the large-seed crops, such as groundnut, where in places like Zimbabwe, farmers may have to set aside 12.5- 25% of their harvest to meet future sowing needs (Table 3).

TABLE 1 HERE

TABLE 2 HERE

TABLE 3 HERE

Despite the uncertain link to food security, seed need assessments are almost invariably based on food security assessments. Whether crop production shortfalls are actually measured, or yield losses are projected from early-warning data, seed needs are generally extrapolated from them. For crop and early warning assessment missions, there is a near total absence of instruments or indicators that are relevant to seed security, although developing such indicators would not be a difficult task. For instance, agronomists with local knowledge, or farmer representatives, could develop a rough harvest loss/sowing needs index similar to those in Tables 1-3 in a few minutes, which could greatly assist in analyzing possible seed security problems. In practice, there is sometimes not even a pretence of any assessment of need; the quantities of seed requested bear no link to stress, but reflect other agendas (such as a source of new crop varieties for supply to farmers [see 12, 7: 63-65].

3.2 When in doubt, give seed. It can do no harm

Seed aid has a benign aura [e.g. 13] . Practitioners sense that "seed aid does no harm". The view that seed aid is, at worst, neutral underpins a cavalier attitude to intervening. Aid agencies claim that they need to act fast, and therefore have no time to conduct seed need assessments. Since seed aid is seen to have no negative effects, the lack of any rigorous justification for aid is not considered a problem: in other words, there is no issue with supply-driven seed aid. It is seen as a low-risk, 'safety first' strategy.

However, experience on the ground challenges this harmless image. Seed aid can pose real risks to farmers, for instance through providing the wrong crop or variety for the area, or providing it too late for farmers to sow. New diseases or pests can inadvertently be introduced. The practice of seed aid is littered with examples of this, where agencies provided long-maturing varieties when fast-maturing varieties were needed, introduced serious new weeds [14], introduced tons of seed totally unadapted to the stress area [15] , or distributed seeds so unacceptable that farmers used the subsequent crop as fodder [16]. The *promise* of seed aid also poses risks to farmers, since this expectation of seed carries significant opportunity costs, such as farmers allocating precious labor to field preparation, or not seeking seeds elsewhere. If what they ultimately get from seed aid is late, or mal-adapted, they are *worse off* than if they had not received aid. Also, there is evidence that providing seed aid as a routine response over multiple seasons undermines the functioning of local markets and stifles the development of small-scale commercial seed enterprises [17]. Finally, repeated seed aid raises serious concerns about dependency, fostering farmer reliance on aid for part of their routine seed procurement, or otherwise affecting local seed systems [4]. So it is simply wrong to say that seed aid is harmless. Poorly-conducted aid can cause short-term, and possible long-term damage.

3.3 Disasters wipe out seed systems

Again, this view is widely held. Its logic links two assumptions: disaster causes farmers to consume all their seed, and disaster has destroyed yields and seed stocks of farmers in general, leaving no seed for purchase in local markets or exchange between farmers [e.g. the assessment following Rwanda's civil war; 18]. This assumed collapse of local systems also justifies large-scale and repeated interventions.

This myth reflects a limited understanding of local seed systems, and a failure to appreciate the diverse ways farmers obtain seed. There is a growing literature on local seed systems [see 19 for review] and such studies of how farmers respond to disasters have greatly improved our understanding of seed systems under stress. This emerging research highlights a number of ways in which seed systems are resilient. An initial insight, noted in 3.1, is that most crops only need small quantities of seed in the first place. This undermines the first assumption above. Secondly, farmers usually obtain seeds from a range of different sources, including neighbors, kin, the formal system (i.e. released varieties), and informal markets. The latter have proven extremely resilient to stress or strife: interviews with seed/grain traders in Burundi [20], eastern Kenya [21], Ethiopia [7], and elsewhere in Africa [22] have found almost no trader who can recall a crisis (including severe drought, flood, or war) when seed was *not* available in local markets for major cereal crops. Local markets are an important seed source in 'normal' periods, but their importance often increases during stress periods. Studies quantifying total seed sowed by source show that local markets provided 25-50% of seed following a disaster, far more than what seed aid supplied in those locations [4]. Thirdly, there are often pockets of stability following disasters, where those with access to productive assets (e.g. land, labor) find ways to obtain at least some seed of key crops. For example, many Rwandan farmers obtained seed from their own stocks or local markets for the season immediately after the 1994 civil war [23], while farmers in the middle of a war zone in Sierra Leone actually increased production during the civil strife of the mid-1990s [24]. Fourthly, studies of seed systems show that socio-economic constraints are often more important after crises than technical constraints (i.e. shortage of seed). Continued stress or social disruptions may mean that people are less willing to share or barter seed with others, as the moral economy weakens [25, 26]. Seed security after disasters should not just consider seed *availability*, but also farmers' *access* to seed, as well seed *quality* [6]. Disasters may affect all three of these key parameters, but they do not simply 'wipe out' seed systems. In reality, extensive studies show that the problem of 'access' is by far the most important seed-related constraint farmers face after disaster, as households may have lost a range of assets and be simply poorer [4]. Quality concerns usually emerge only when there are major outbreaks of pests and diseases, such as the recurring cassava mosaic disease in eastern Africa [27: 7-8]. Seed availability, an actual scarcity of seed, is a relatively rare problem – although this is the major justification for using the direct seed distribution approach (*ibid.*).

3.4 Giving seed as aid in emergency is easy; it is a logistical exercise

Often, emergency seed aid is simply grouped under the broad category of 'Non-Food Items', and its delivery treated as a mere logistical exercise, akin to supplying blankets. Evidence of the

casual regard of seed aid is provided by the involvement of non-specialist NGOs - organizations without agricultural expertise - often as the only agricultural intervention they ever conduct. A recent study in Ethiopia found several humanitarian medical organizations supplying seed aid without prior experience, and with no evident knowledge of the complexities of local farming systems [7]. Even when government agencies are involved, they may make little effort to include expertise from agricultural researchers or others with relevant local knowledge.

The simplicity of seed aid is another myth. Proper assessments are needed that include an understanding of the *ex ante* cropping repertoires, seed systems, and the impact of the disaster on them. Seed aid also requires clarity around strategic goals. This entails many choices around implementation approaches which may have significant implications, but these choices are rarely considered by implementers in any explicit way [28]. For instance, is the goal to restore the system to the *status quo ante*, or to strengthen some element of it (e.g. by introducing new crops, or supporting local markets)? Should the intervention focus on the most affected crops, those that generate income, or those that can produce food quickly for recovery? Different goals entail distinct strategies (for instance, women may grow different crops from men, HIV-affected households often have serious labor constraints). Different goals also involve distinct risks, which relate to the strengths and weaknesses of the existing system.

Seed aid also requires locally-specific and up-to-date technical knowledge. This includes knowledge of the agro-ecological and adaptation zones and the seasonality of the material supplied, knowledge about seed physical health (and locally-accepted quality standards), and the role particular crops and varieties play in local farming systems. Farmers' knowledge is invaluable here, but rarely sought on these issues. In fact, key choices about what is supplied are sometimes externally-established, through donor demands, or tacitly via links to commercial seed suppliers. Such supply-driven aid may be completely inappropriate.

Finally, there are complicated issues involved in implementation of seed aid. For instance, what processes are used to target seed-needy beneficiaries? Are monitoring and evaluation planned for and budgeted, and how will lessons learned feed back to better practice? Moreover, seed delivery is extremely time-sensitive; farmers have a short sowing window and require seed in time to be able to plan their various livelihood activities [5].

3.5 'Improved seed' is the best default option; it is a guaranteed product

'Improved seed' is commonly sought by seed aid practitioners. This term has limited value as a label, though, since it may refer to modern varieties developed through (public or private) plant breeding, or to seed (of any type) that is formally certified or quality-checked seed for sanitary, physiological and analytical quality. Thus improved seed could indicate 'genetic quality' (attributes such as potential yield, plant type, seed color, or other traits), or 'seed quality' *per se* (whether the seed is healthy, will germinate, and is free of inert material), or both. Organizations often recommend that seed aid should use 'improved seed' whenever possible, on the basis that this material is superior to farmers' varieties (i.e. local cultivars, landraces) and to any seed from uncertified sources (e.g. The Rockefeller Foundation, J. DeVries, *Pers. Comm.* October, 2007). The assumption is that the quality of this seed is guaranteed, and near sure to produce in farmers' fields. Normative views about modernization and development also influence this perception.

However, the *universal* superiority of improved seed is another myth and especially in the context of stress scenarios. We address, in turn, issues of genetic quality and seed quality *per se*.

The view that modern varieties are genetically superior to local ones is widespread, which explains why some agencies view promotion of these varieties as a goal of seed aid [e.g. 12]. However, this superiority is usually assumed rather than proven [29: 25], and often linked to particular productions areas (i.e. medium or higher potential) and 'better management' conditions. Modern varieties are not necessarily adapted to the agro-ecologies or low-input conditions of seed aid recipients. In highly-stressed areas, genotype-by-environment interactions mean that local varieties often out-perform modern varieties from (distant) breeding stations, as seen with barley in Syria [30], or maize in Malawi [31]. Also, there is often a narrower choice of formally-released varieties than of farmer varieties, making it difficult for the former to provide key traits farmers may need for variable agro-ecologies or to address diverse socio-economic constraints. The breadth of choice supplied through private commercial outlets (e.g. F_1 hybrid maize) may even be narrower than that available from the formal (public) sector, and even less likely to be geared towards low-input or stressed conditions.

The evidence that the formal sector, certified seed, has better seed quality (sanitary, physiological and analytical attributes) than seed from informal sector is uneven at best. Formal certification does not necessarily guarantee healthy seed as technical lapses, rent-seeking, and weak enforcement can result in certified seed with very poor physical quality [32, 33]. In informal seed systems, farmers and seed/grain merchants also use a range of techniques to maintain seed physical quality, which is relatively straightforward for cereal crops in drier areas [e.g. 34]. Providing good quality seed may make or break a local traders' business and farmers encourage maintenance of good, local standards through mechanisms of 'social certification'. Simply, if a trader provides poor seed, word spreads quickly within farming communities—and across potential clientele (T. Remington, Catholic Relief Services, *Pers Comm*, March 2005) In contrast, poor farmers may have little chance for redress for seed from the formal sector: companies may be based far away or grievance procedures complicated (especially for the illiterate).

Closely linked to beliefs in the universal superiority of modern varieties and certified seed is the assumptions that certain channels guarantee quality, which helps explain why some seed relief practitioners most often use formal suppliers (e.g. licensed commercial operators) [35]**.** Such supply-led practitioners tend to use the same suppliers again and again. This raises concerns about institutionalization, and the emergence of a 'relief seed system' where seed suppliers forge close links with implementers, and enterprises spring up simply to supply seed for aid programs, such as in southern Africa [36]. These close relationships can blunt any criticism of suppliers, even where commercial seed is merely bagged grain.

Local systems are not flawless, and modern varieties can be extremely useful to farmers. However, quality is not the exclusively possession of one variety type, regulatory system, or seed channel. Following emergencies, what is important is that seed be 'at least as good' and 'farmer – acceptable' as what farmers normally sow, and that the right seed channels and quality-control mechanisms are used to ensure these minimum standards.

4. *ABSENT GOVERNANCE OF SEED AID*

Seed aid is a major humanitarian activity, receiving hundreds of millions of dollars every year. With this in mind, it is striking to consider just how pervasive the above myths are, as many (though not all) practitioners, and some donors, repeat these myths in their proposals, reports, and practice guidelines. More striking still is the apparent lack of oversight by donors or practitioners, or even lip-service paid to ensuring seed aid is effective: policy guidance or organizational codes of practice are usually absent; most seed aid efforts are poorly recorded; objectives are rarely stated openly; and there is almost no monitoring or evaluation. The monitoring that does occur focuses on outputs such as a) the amount of seed bought and moved, b) the areas where it was generally distributed, or c) number of recipients [e.g. 8]. Other basic questions, such as whether the seed was planted, actually grew, was the 'right kind', or even whether it arrived on time may remain unasked. The possibility that interventions other than seed aid could be more effective at addressing vulnerability rarely appears to have been considered. And perspectives of beneficiaries are almost completely absent. Seed aid faces challenges common to most humanitarian efforts (e.g. expatriate staff with little local knowledge, short planning horizons), nevertheless there are major initiatives to improve the effectiveness of humanitarian aid [e.g. 37, 38], but few steps forward for seed aid. Seed aid is often repeated many seasons in the same location, providing potential opportunities for learning from the past and planning future interventions. Moreover, poor seed aid can have long-term negative impacts, perhaps more so than, say, food aid or shelter interventions, because it is largely 'invisible'. Thus, improving the practice of seed aid is as key as for other areas of humanitarian relief.

We recognize that a comprehensive agenda for improving seed aid may overwhelm the capacities of donors, states, or implementers. However, as with reforms for other areas of governance, seed aid need not be perfect, but rather 'good enough' [39]; priorities should be for reforms which directly benefit vulnerable farmers, help ensure minimum standards, and which are practically and institutionally feasible. There already exist guidelines and practical tools to help donors and practitioners concentrate on these very priorities, and improve their practice, even in complex contexts [e.g. 27, 40]. Indeed, there are small, though significant, islands of change toward better seed aid practice and governance at the frontiers of the field. In the past several years, the USAID's Office of Foreign Disaster Assistance has been promoting Seed System Security Assessment (SSSA) as a prelude to funding, and has moved to significantly supporting market-based approaches [27]. The FAO recently issued a review indicating that seed access is a more common problem than seed availability, and also stating that SSSAs should be done (T. Osborn, *Pers. Comm.* January 2009). The Norwegian Parliament has called for an end to 'seed dumping' and for support to existing systems in stress periods [41]. And Ethiopia is drafting seed aid guidelines, as initial as these may be (A. Amare, *Pers. Comm.*, December 2008). These steps towards more effective seed aid reflect a growing recognition, among a select few, of the problems with standard approaches of seed delivery, a better understanding of what happens to seed systems during disasters, and modest wills to move forward. Having said this, seed aid is actually intensifying world-wide, and the great majority of interventions do not show moves to improved practice.

4.1 Why is seed aid so little governed?

By now it should be clear why emergency seed aid needs careful attention. But this begs two pertinent questions: why has there been so little pressure to improve seed aid governance up to now? And how could seed aid practice be improved?

The primary reason for the absence of effective governance is that seed aid remains invisible. Despite decades of activity and considerable expenditure, it continues to have a low profile. Its common portrayal as an adjunct of food aid hides seed aid from proper monitoring, or even record –keeping, in its own right. The absence of such information obscures depictions or analyses of the actual scale of seed aid [for instance, a recent study of seed aid over 30 years in Ethiopia was the first major review of long-term experience in any country, but details of many past interventions were incomplete; 7]. Equally serious, the lack of evaluations constrains opportunities to learn from experience.

Second, seed aid is widely considered unproblematic, which weakens any political pressure for improving governance. The myths that these interventions are essentially harmless and mere logistical exercises work against any efforts to scrutinize them critically. Here, comparisons with the Sphere process are instructive. A key driver behind Sphere's launch in 1996, and the development of its Humanitarian Charter in 2000, was the experience of poorly-coordinated humanitarian aid in Rwanda after the civil war in 1994. Intense media coverage, NGO frustration, and donor pressure around this high-profile crisis combined to provide a strong push for reform [42]. The potential shortcomings of poor seed aid are less well-known, so it has not been seen as problematic, or vulnerable to distortion as, say, food aid in complex emergencies. Until this benign view of seed aid changes and its impact on livelihoods is better-appreciated, there will likely be little pressure for its reform. On a positive note, facilitators of the Sphere Handbook revision for 2009-10 have agreed to add a specific seed security and seed aid component – recognizing that seed-related issues are somewhat distinct from food-related concerns in emergency periods (D. Velly, *Pers. comm.* September 2009).

The exclusion of key partners and experts from involvement in seed aid is another reason for its poor governance. For instance, public-sector agricultural researchers, farmers, and informal seed/grain traders have a great deal of pertinent knowledge and expertise around seed systems, responses to stress, variety adaptation, and local institutions. Yet they are almost never included in the design or implementation of seed aid [with the exception of market-based approaches, some of which work closely with traders; e.g. 22]. In particular, weak links between those co-ordinating or implementing seed aid, and agricultural scientists working at any level, undermine effective seed aid.

A fourth reason for poor governance is that the goals for seed aid remain unclear or hidden. Diverse institutional and political agendas come to bear on seed aid, such as modernization [12], a desire to develop commercial enterprises, or an interest in promoting farmers' self-reliance [43]. The philosophy of individual donors, governments, and implementers strongly influences the choices they make in delivering seed aid, much more so than any assessment of needs on the ground. For instance, the promotion of new technologies may drive seed aid more than the goal of vulnerability reduction [5]. While it is neither desirable nor realistic for all practitioners to have identical goals, greater openness around goals is necessary for any real assessment of impact. This

would also help stakeholders (practitioners, donors, governments and recipients) to review goals and negotiate new ones. However, there is little discussion among practitioners of their various goals around seed aid.

4.2 Priorities for moving forward

To date, critical oversight mainly comes from implementers and mainly addresses more superficial concerns such as logistics. However, the key levels of oversight should reside with donors and with farmers. Donors can play a crucial role in ensuring that seed aid is needed in the first place (via assessments), that appropriate approaches are used, and that evaluations take place to gauge intended (and any unintended) effects. Tools exist to help donors be more discriminating in reviewing proposals, to screen for positive as well as potentially damaging elements, and to guide evaluations of immediate and longer-term results [28]. Donors also need to develop capacity and processes to enforce minimal standards as a condition for funding seed aid response [such as the basic guiding principles endorsed by the Emergency Coordination Group; 44]. Finally, donors need the will to reject poorly-designed proposals, or to refuse funding (the next round) for poorly implemented field operations. Ideally, these efforts should work in concert with government policies for better practice; priorities for 'good enough' governance include policies requiring seed needs assessments, involvement of relevant expertise, full reporting, and effective evaluations.

Recipients also need fuller voice, as they are the purported beneficiaries. Farmers should be asked if the processes and products of seed aid responded to their immediate needs or helped to alleviate longer-term problems. That is, they can help to govern via a feedback loop: their assessments of completed aid can help guide the process and content of subsequent assistance. There are as yet few effective ways to give farmers more say over the procedures, content or approach of seed aid. Possible approaches include holding implementers accountable for the seed they put on offer, or providing farmers with channels for redress in cases of poor practice. These sorts of approaches would focus practitioners' minds on the serious nature of their intervention, and ultimately could help drive up the quality and relevance of practice. Governance reforms in other sectors have shown that measures to improve accountability to beneficiaries can drive improvements more quickly than structural reforms, [39]. So for effective seed aid practice, the locus of governance has to shift, along with the questions being asked. Donors need to be more discriminating from the beginning and the recipients should have greater voice in evaluating—and then helping to shape future rounds of aid.

Seed aid is not an isolated practice, but is often closely-linked to agricultural development, humanitarian relief, and social protection. Thus, improved the governance of seed aid should not just concern those directly involved, but also many others in the humanitarian and development communities.

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Table 1 Sowing needs for two crops in relation to households for Douentza Circle, northern Mali [source: 45]*

Mean measures for household	**Crop**	
	Pearl Millet	**Cowpea** (intercropped with Pearl Millet)
Sowing needs (kg/ by farmer area)	10-20	5
Harvest (on normal farmer area)	430	70
% Harvest needed for seed	**3.4**	**7.1**

* Based on farmer and key informant assessments

Table 2 Farmers' estimates of sowing needs for sorghum in two districts of West Hararghe Zone, Ethiopia, comparing 'good' and 'bad' years (adapted from [46]).*

Mean measures for household	District	
	Chiro (Highland) n=53	**Miesso (Lowland) n=41**
Sorghum area (ha)	0.5	0.75
Amount seed saved for sorghum (total kg)	15	28
Production in good year (kg)	1250	1600
% Harvest needed for seed (good year)	**1.2**	**1.8**
Production in bad year(kg)	400	260
% Harvest needed for seed (bad year)	**3.75**	**10.8**

* Derived from survey data on households' sowing practices and production expectations.

Table 3 Farmers' estimates of sowing needs for groundnut in Bikita district, Zimbabwe, comparing an 'average' and 'poor' farmer as defined in community assessments [source: 47][*]

Mean measures for household	**Average farmer**	**Poor Farmer**
Area sown (ha)	0.9	0.1
Seed needed (kg)	90	10
Harvest (kg)	720[†]	40 [§]
% Harvest needed for seed	**12.5**	**25**

[*] Based on community assessments
[†] May use lime or gypsum
[§] Reduced capacity to weed