Seed systems in conflict-affected areas

Context Analysis Tool

July 2022

About ISSD Africa

Integrated Seed Sector Development in Africa (ISSD Africa) is an international community of practice, guiding seed sector innovation and development on the African continent to alleviate the problem of limited access to quality seed.

About Mercy Corps

Mercy Corps is a leading global organization powered by the belief that a better world is possible. In disaster, in hardship, in more than 40 countries around the world, Mercy Corps partners to put bold solutions into action — helping people triumph over adversity and build stronger communities from within. Now, and for the future.

About SeedSystem

SeedSystem provides practical ('how-to') guidance and strategic thinking to help professionals design seed-related assistance for and with smallholder farmers. It aims to foster productive, resilient, and market-oriented seed systems, even in times of emergency and chronic stress.

Recommended Citation

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Note to readers

This is version 1 of this tool. We invite practitioners to review and test the tool, and provide the authors with detailed feedback for ways it can be improved.

All comments are welcome.

Contents

Acronyms

ACLED	Armed Conflict Location and Events Data
CAR	Central African Republic
CAT	Context Analysis Tool
CDA	CDA Collaborative Learning Projects
COVID	Coronavirus Disease
CRS	Catholic Relief Services
DNH	Do No Harm
DRC	Democratic Republic of the Congo
DSD	Direct Seed Distribution
EA	Extension Agent
FNS	Food and Nutrition Security
ICRC	International Committee of the Red Cross
IDP	Internally Displaced Person
IFDC	International Fertilizer Development Center
ISSD Africa	Integrated Seed Sector Development in Africa
LSB	Local Seed Business
MAFFS	Ministry of Agriculture, Forestry and Food Security (Sierra Leone)
MC	Mercy Corps
MT	Metric Ton(s)
NGO	Non-Governmental Organization
ODI	Overseas Development Institute
OPV	Open Pollinated Varieties
NIFAAS	Nigerian Forum for Agricultural Extension and Advisory Services
PICS	Purdue Improved Crop Storage
SDC	Swiss Agency for Development and Cooperation
SEND	Social Enterprise Development (Sierra Leone)
SERT	Seed Emergency Response Toolkit
SLARI	Sierra Leone Agricultural Rice Institute
SMS	Short Message Service
SSSA	Seed System Security Assessment
SSA	Seed System Assessment
SSRA	Seed System Resilience Assessment
ToT	Training of Trainers
UN-FAO	Food and Agriculture Organization of the United Nations
USAID	United States Agency for International Development
VDC	Village Development Committee
WARC	West Africa Rice Company

Introduction

Seed systems in fragile states differ from seed systems in more stable environments. They need to function amid fluid situations and absorb the effects of market disruptions, displacement, and other conflict-spurred features, while enabling farmers to access the diversity of crops and varieties key for thriving in the face of vulnerability. When effectively intervening in fragile states, donors, humanitarian agencies, and other stakeholders must approach seed-related activities differently from how they would in more stable environments. This shift requires assessing and understanding the dynamic context and seed system before implementing context-appropriate interventions that at minimum do no harm and that potentially contribute to significant and sustainable seed system strengthening.

Assessment and analysis tools exist for the seed sector in stress periods (e.g., seed system security assessment [SSSA][1]), specifically for supporting seed system resilience (seed system resilience assessment [SSRA]), and for intervening in conflict settings (e.g., Search for Common Ground's **Conflict Scans Methodology** [Duncan, 2015]). All sets of tools provide contextual understanding and can inform seed system interventions. However, there is no dedicated tool to help humanitarian actors understand the context in fragile and conflict settings and then inform the design of seed interventions in these environments.

Through an **ISSD Africa** collaboration, **Mercy Corps** together with **SeedSystem** developed this Context Analysis Tool (CAT) to help implementers working in conflict-affected areas of fragile states. The CAT aims to help these actors quickly grasp the environment and circumstances in which seed systems function, and then to identify practical entry points for designing and implementing interventions to bolster such systems, making them more resilient. Pushing beyond the standard interventions that focus on importing and distributing seed, the CAT is a modest but important beginning for promoting more tailored, and hopefully, better practice in these challenging contexts.

> Dedicated tools are needed for seed interventions in conflict settings.

Box 1 **Companion to this tool: Seed Emergency Response Tool (SERT)**

Also through ISSD Africa, Mercy Corps and SeedSystem have developed a Seed Emergency Response Tool (SERT) (Sperling et al., 2022). The SERT is for practitioners engaged in emergency and early recovery agricultural responses, those weighing diverse seed-security response options, and those needing advice to shape on-the-ground implementation. It provides an overview of the key information needed for informed decision making, and to supplement critical thinking with practical guidance. The guidance tools include decision trees for choosing a suitable intervention option, checklists for intervention practice, and reference materials for those seeking more technical detail. The CAT and SERT can be used together or separately, depending on the context, in order to support more effective seed interventions in emergency and fragile contexts.

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1   It is recognized that the SSSA approach includes context analysis presented in the form of select descriptive parameters of sites chosen, but it is not specific for conflict settings. In the SSRA toolkit, for purposes of resilience assessment, a context analysis component has been included to help understand food systems and their food and nutrition security (FNS) outcomes.

CAT overview and objectives

The Context Analysis Tool (CAT) provides humanitarian actors with an analysis process to understand seed systems in conflict settings. It aims to help implementers design effective interventions to support and develop these seed systems, while ensuring that farming community members' needs drive the seed system strengthening, recovery, and development process. *The objectives are two-fold:*

Analyze the conflict context

Understand how the conflict context affects or is affected by seed systems. At a minimum, stakeholder engagement processes need to be conflict-sensitive, and any subsequent interventions must *do no harm*.

Analyze and identify opportunities to strengthen seed systems

Identify those elements of seed systems that are more robust in conflict-affected areas and those that are disproportionately affected, and then support humanitarian actors to reduce weaknesses and build on strengths in an efficient and targeted manner.

> ### The CAT has three sections.
>
> **Section 1:**
> Characterizes seed systems and conflicts.
>
> **Section 2:**
> Phase 1 outlines the methodology for assessing context-specific scenarios with the aim to support seed system functioning.
>
> **Phase 2 explores** practical programming considerations for seed-related interventions in these scenarios.
>
> **Section 3:**
> The Annexes, presents specific field tools.

Photo: Ezra Millstein/Mercy Corps

Section 1 Characterizing conflicts and their effects on seed system programming

1.1 Characteristics of seed systems

Smallholder farmers routinely rely on multiple seed channels to access seed. Reinforcing all key seed channels helps ensure that farmers can access their needed crops and varieties as well as good quality seed. Farmers commonly rely on both the formal and informal seed systems. The **formal seed system** is deliberately constructed and involves a chain of activities starting with formal plant breeding and generally leading to genetically new products: modern varieties sold in the form of certified seed. In this system, there is a clear distinction between "seed" and "grain" in the production techniques. In contrast, the **informal seed system** is embedded within the farmers' own production system. Farmers themselves produce, select, disseminate, and access seed from their own harvests, through exchange or gifts from friends and relatives, or through local grain markets (i.e., through traders, small vendors, etc.). Local norms and expertise, rather than formal standards and processes, shape informal seed products, and the distinction between seed and grain is sometimes less clear. That said, farmers and traders also often employ quite specialized seed-related practices such as seed selection, procurement, storage, and overall seed management.

The formal seed system may provide farmers with select crops, such as hybrid maize, and with modern varieties that are offered as high quality, certified seed. Formal seed channels include government seed services and commercial companies. The informal seed system (also termed local, traditional or farmer seed system) centers on a wide range of crops, especially open-pollinated ones such as beans and vegetatively propagated ones such as sweet potato.

> The formal seed system involves a chain of activities starting with formal plant breeding and generally leading to genetically new products: modern varieties sold in the form of certified seed.

> The informal seed system is embedded within the farmers' own production system. Farmers themselves produce, select, disseminate, and access seed from their own harvests, through exchange or gifts from friends and relatives, or through local grain markets.

Photo: Mercy Corps

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It centers on farmers' or local varieties but also frequently includes modern varieties multiplied further by farmers or traders themselves. Informal seed channels might include farmers' own harvests, social networks, and local markets or traders. There are also *intermediary seed systems*, such as community-based seed production and Local Seed Businesses (LSBs) (ISSD Africa, 2015), which variously combine aspects of the two and which tend to be decentralized.[2]

The different seed systems may be differentially vulnerable in the face of conflict or other disaster. Conflict may affect both crops and seed channels in varied ways. The formal commercial or government channels, for example, are often weakened or collapse, which subsequently affects hybrid maize supply. In contrast, local markets often continue to operate to some degree, meaning that seed of crops accessed in these venues, like common beans or small grain cereals like millet or sorghum, remains readily available.

Understanding the formal and informal seed systems, how farmers interact with each, and how they are differentially vulnerable to and affected by conflicts is the foundation for guiding seed system interventions in fragile and conflict-affected areas.

1.2 Characteristics of conflict

At its most basic, *conflict* occurs when two or more parties believe that they have incompatible goals. Not all conflict is violent, but it always has the potential to become so. A key feature of conflicts is that they have deep and sometimes unseen root causes that lead to visible consequences and effects. For example, the root causes of a conflict may include discrimination, mistrust, and fear, with the visible consequences and effects being incidents of violence, displacement, and poverty. Overall, the root causes of conflict tend to fall into one of four categories: social, political, economic, or ecological.

Physical violence is the most basic form of direct violence. It involves the use of physical force and includes armed attacks, theft, rape, and killing. Two other categories may be less immediately visible. The first is *structural violence* – actions of systems and institutions that harm or disadvantage certain groups and individuals, such as discriminatory policies or exclusionary practices. The second, *cultural violence*, refers to the views, values, and behavioral norms to which people adhere to justify violence. These may derive from past traumatic experiences or from prejudice.

Related to conflict is the concept of positive and negative peace. Just as some elements of conflict are more visible than others, the same is true of peace. *Positive peace* refers to contexts where attitudes, institutions, and structures create and sustain peaceful societies. There are several pillars of positive peace, the most crucial ones being inclusive governance, equitable distribution of and access to resources, free flow of information, acceptance of the rights of others,

> ⟩ Root causes of conflict stem from social, political, economic or ecological issues.

Photo: Cassandra Nelson/Mercy Corps

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2   LSBs fill a gap in quality seed production for crops that do not interest commercial seed companies. They may start from the informal sector as farmer groups or entrepreneurial farmers who see business opportunities in the production and marketing of quality seed. At the end of the program, these farmer groups produce and sell quality seed of locally preferred crops and varieties to local markets and operate as local businesses. They are technically equipped, professionally organized, market oriented and strategically linked to achieve commercial sustainability.

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and low levels of corruption. **_Negative peace_** refers to the absence of direct physical violence. Contexts that seem peaceful may still contain underlying features that cause conflict, such as forms of structural and cultural violence like discrimination and prejudice. These are cases of negative peace.

1.3 Conflict features and seed systems

To date, little work has focused on characterizing conflict in relation to seed system programming. This type of analysis is important because various features of conflict may affect agricultural interventions and need to be considered in any program design. For instance, the absence of negative peace (i.e., the presence of physical violence) is linked to displacement which might result in farmers working in different agroecological contexts, and thus needing to modify their crop choice or farming practices. The absence of positive peace (i.e., exclusion) is linked to market access, which might affect their ability to sell their grain and seed or access transport routes. Drawing from experience in Africa, Table 1 provides an initial list of conflict features and examples of how these have changed famers' crop, seed, or management choices. While many effects of conflict are negative, it is important to consider what might be positive changes due to the expansion of coping strategies or the creation of new supply options.

> There are multiple features of conflict — length of stability period, theft, market access, land access, access to labor, etc. — that humanitarian actors might consider when analyzing the potential of conflict to affect agricultural and seed system programming.

Photo: Ezra Millstein/Mercy Corps

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There are multiple features of conflict – length of stability period, theft, market access, land access, access to labor, etc. – that humanitarian actors might consider when analyzing the potential of conflict to affect agricultural and seed system programming. Their presence and degree of importance will differ from one context to another, and additional features could be identified from the literature and from direct analysis among stakeholders in a specific context. See Section 2 on CAT Methodology and **Annex 2** for examples and questions to help identify conflict features and their effects on seed systems.

Table 1 Seed systems in conflict contexts: examples of immediate change

Conflict feature	Type of change	Example(s)
Length of stability period	**Changes in crop choice and management practices**	**North Kivu, DRC** Farmers plant crops earlier to not coincide with rebel attacks.
Theft		**North Kivu, DRC** Farmers change crop choice to those less susceptible to theft, such as crops that require further processing before consumption (e.g.,soybean) or more time to harvest (e.g.,groundnut).
Labor (changing access to labor and labor sharing arrangements)		**South Sudan** Workers/children no longer scare away birds because it makes too much noise and attracts enemies, leading to a loss of sorghum.
Risk of displacement		**Ethiopia** Farmers change to smaller sized vessels which are put underground to hide the extent of seed stored and to be able to move vessels quickly.
Military tactics		**Northern Uganda** Military controlled the height of field plants such as cassava so that rebel fighters cannot easily hide.
Market access: formal markets	**Changes in formal seed channels: commercial system collapse**	**South Sudan** Seed companies (e.g.,in Yei) shut down as soon as conflict escalates. **Rwanda** Potato seed and production collapse due to stalling formal seed supply systems causing scarcities of clean seed, fungicide, and fertilizer.
Market access: informal markets	**Changes in informal seed channels: market and mobility issues**	**South Sudan** People are not able to travel from one local market to another, leading to scarcity of local seeds in some areas.
	Change in variety diversity	**Sierra Leone** Rice diversity increased due to influx of aid (although this may be partly negative as farmers may have been obliged to import non-local types from outside the region).
	Change in supply channel	**Mali** Farmer cooperatives organize and respond to relief seed calls with adapted pearl millet seed.

Sources of examples: Baributsa et al., 2021a; H. Guindo, pers. comm., Nov. 2021; J. March, pers. comm., Feb. 2022.

Section 2 CAT methodology

This section provides practical guidance on how to conduct an assessment and analysis of seed system functioning in conflict-affected areas, including:

- an introduction to the CAT phases of assessment and analysis
- important considerations for working in a conflict-sensitive and savvy manner
- the information required to assess the conflict context
- ways to collect data in a conflict context
- frameworks and standards for analyzing the information collected.

For more general guides on overall safety and security measures, see ICRC's resources on **Safer Access for all National Societies** (ICRC, 2015).

Introduction to CAT phases of assessment and analysis

The CAT takes a phased approach using tools and specific questions to understand the context in which seed systems function – considering the conflict characteristics, the seed system constraints, and the intricate relations between the two – and then identifying opportunities for interventions.

The process consists of five steps separated into two phases (Figure 1).

Phase 1 Assess the context

Focuses on the assessment activities, helping humanitarian actors understand:

1. Patterns of the conflict – Its roots, evolution, and current dimensions.
2. Effects of conflict on seed systems – The interface between seed systems and the conflict (broad changes, constraints, and opportunities).
3. Current status of seed systems – The status of the key seed systems under the current, stressed situation.

Phase 2 Analyze and identify opportunities to improve seed system functioning

Focuses on analysis of the assessment information to inform seed-related interventions:

4. Decision-making framework[3] – for working on seed systems in a given conflict context.
5. Programming interventions – identify specific programming opportunities to improve seed system functioning.

The methodology is not a linear progression. As one progresses through the phases and steps, it may be necessary to return to a previous step to collate more information, probe further, and re-evaluate findings in response to the changing conflict context.

Alongside the CAT, humanitarian actors can employ in-depth seed security tools, on both the demand and supply side; this ensures that the current seed security constraints inform seed response planning. An example of a seed security specific tool, tailored to conflict, is available in **Annex 4**.

Photo: Georgina Smith/PABRA

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3   This decision-making framework can be used alongside the decision trees included in the SERT, to link specific seed security aspects (access, availability, quality) to appropriate intervention options.

What is key to remember is that *people, not seeds or peace alone, are at the core of the CAT methodology*. People living in conflict zones may have very specific goals for seed security, including diverse goals such as food security or enhanced nutrition, more income, or greater seed system resilience. The CAT process must be people-centered. The local farming population's expressed needs should drive the design of seed system interventions that will serve them in these challenging agricultural contexts.
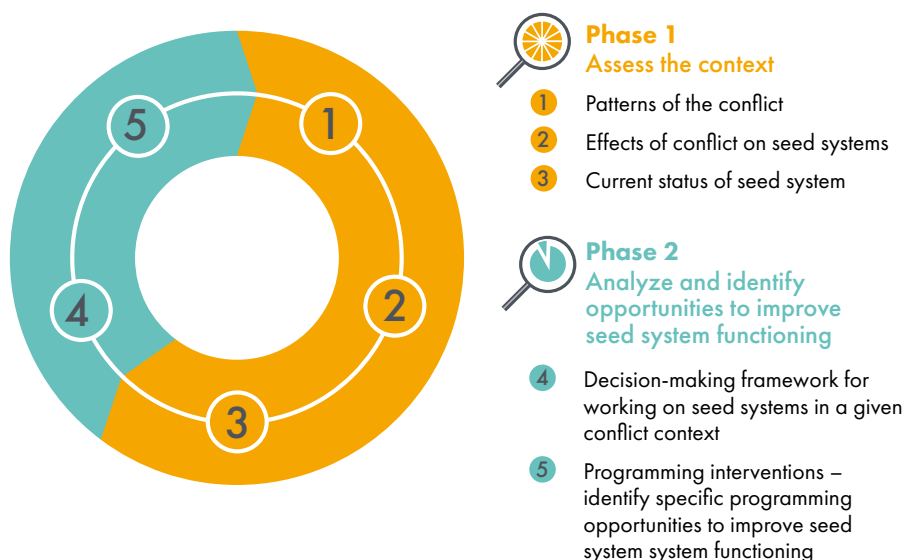

Phase 1
Assess the context

1. Patterns of the conflict
2. Effects of conflict on seed systems
3. Current status of seed system

Phase 2
Analyze and identify opportunities to improve seed system functioning

4. Decision-making framework for working on seed systems in a given conflict context
5. Programming interventions – identify specific programming opportunities to improve seed system system functioning

Figure 1 CAT phases and steps

Working in a conflict-sensitive and conflict-savvy manner

Before beginning the assessment process, there are a few operating principles that humanitarian actors need to understand so they do no harm through their seed interventions. The principles should be reviewed and discussed as a team to ensure those participating in the assessment and analysis process understand their significance.

> Practitioners need to be both conflict-sensitive and conflict-savvy

Conflict sensitivity and do no harm

In order for a seed systems program to be conflict-sensitive, actors must understand the conflict context and how the proposed program interacts with that context. The aim of *conflict sensitivity* is to ensure that the program *minimizes* any potential negative effects it may have on the conflict and *maximizes* any potential positive effects. A well-known conflict sensitivity framework comes from the **Do No Harm (DNH) program** (CDA, no year specified). DNH lays out seven steps to ensure that a program does no harm, including a crucial step to analyze *connectors* and *dividers*. Dividers refers to the elements in a society that divide people and that can result in conflict, such as a particular resource or area of land over which two groups are competing. Equally important are the connectors, which are those shared elements that bring together different sides in a conflict. An example of a connector is a marketplace where different groups come together to trade and socialize, and to exchange or buy seed.

A conflict-sensitive intervention does not focus only on minimizing the risk of exacerbating tensions and doing no harm. Being conflict sensitive is just as much about strengthening local capacities for peace.

Working within conflict zones means that the style or manner of data collection is as important as the process for harnessing technical insights. Practitioners need to apply conflict-sensitive skills to the assessment and analysis processes on the ground. For example, asking questions too directly may not be effective or safe as conflict is a sensitive topic; first, trust must be built. Therefore, practitioners may need to ask open-ended questions at the beginning of a focus group or key informant interview to get the conversation started. **Annex 1** provides more detail on how to do this as well as conflict analysis guidelines for use when employing the CAT.

Conflict-savvy staff and stakeholders

While there are several conflict sensitivity guidelines available[4] for formal conflict sensitivity processes, it is also important to be "conflict-savvy". This is a term less used in humanitarian scenarios, but it is equally important when considering an assessment and during the subsequent phases of implementation. Conflict-savvy refers to a set of skills someone might have that allows them to navigate the peculiarities or dangers of the conflict and to continue to complete the tasks at hand. While not all humanitarian actors follow formal conflict sensitivity processes, most of them will rely on a certain level of conflict-savviness in order to conduct their work in a way that does not put them or the communities they work with in danger. For instance, a conflict-savvy informant can advise on which villages are accessible or which roads are mined; a conflict-savvy trader might know where to find scarce and adapted seed and how to move it even in turbulent times. The logistics of an assessment in a conflict-affected region can be formidable. Having conflict-savvy informants and team members can make an important, positive difference.

Photo: Ezra Millstein/Mercy Corps

Phase 1 Assess the context

Phase 1 helps practitioners capture the information needed to understand the patterns of the conflict, the interface between seed systems and the conflict, and the status of the seed system. Data collection should result in a set of answers to core questions, recognizing that it is challenging to work in fragile state and conflict settings. Thus, the information gathered must focus on the essential insights required to make decisions.

Note Before initiating the steps in Phase 1, practitioners should conduct a review of existing documents for the specific context. The use of complementary, in-depth SSSA tools can also add precise insight into seed security trends.

> Before starting
> Phase 1, practitioners should conduct a review of existing documents for the specific context.

Step 1 Patterns of the conflict

Objective: Obtain a broad view of the types and characteristics of the conflicts as well as the nature of their impacts – geographic, demographic and over time – for purposes of prioritization.

Summary: The patterns of the ongoing conflict as well as its roots and evolution need to be well understood. Here, the historical perspective may be just as important as the current situation since tensions may be deep-rooted and multi-stranded. This analysis should include a comprehensive understanding of frictions and bottlenecks as well as openings for moving forward. As described in the section titled **Characteristics of conflict**, it is important not only to understand the root causes and consequences of conflict, but also to consider factors that contribute to peace.

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4   Search for Common Ground's Conflict Scans Guidance Note (**www.dmeforpeace.org/ peacexchange/conflict-scans-guidance-note/**) and Conflict Sensitivity Consortium's How to guide to conflict sensitivity (**www.conflictsensitivityhub.net/wp-content/ uploads/2020/09/6602_HowToGuide_CSF_WEB_3.pdf**)

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Phase 1

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Tool: _Annex 1_ provides an initial set of conflict analysis questions and guidance, and two tools that can be used with the questions: a conflict prioritization matrix and a context, conflict, and do no harm analysis worksheet.

Step 2 Effects of conflict on seed systems

Objective: Explore the broad effects of the conflict on seed system functioning

Summary: As described in Section 1, conflict features can have many effects on seed system functioning. The effects of conflict might be all-encompassing in that farming communities may not even be ready or able to re-engage in agriculture. Or the effects could be more incremental but have important consequences such as farmers changing which crops they plant, altering planting dates, changing labor arrangements to minimize theft, or adapting how they access seed.

Tool: _Annex 2_ provides an initial set of guidance questions. They aim to explore changes to the seed system, as a result of the conflict, on both the demand and supply sides. Additional questions that link conflict features to changes in agricultural practices are included for further probing, as needed.

Step 3 Current status of seed systems

Objective: Identify the specifics of the seed security situation.

Summary: Equipped with some understanding of the evolution and current state of the conflict and its possible broad effects on agricultural and seed systems, the next step is to delve deeper into the specifics of the current seed security situation. Tools have been developed for understanding seed security and seed system functioning in humanitarian contexts,[5] including in both acute and chronic stress contexts, and the two contexts overlaid. The Seed System Security Assessment (SSSA) tools[6] focus on issues around the major crops and seed channels farmers use in normal times and in times of stress. The tools help humanitarian actors map farmers' needs and the response options[7] to meet those needs for the upcoming one or two agricultural seasons. The tools are strongly evidence-based and have routinely been used in on-the-ground assessments.[8]

Tool: Experts and donors have outlined a set of minimum standards for the elements that need to be included in SSSAs to ensure reliability. As it may be more difficult to operate in conflict contexts than in other types of stressed situations (e.g.,drought), these minimum standards may need to be tailored and reduced for use in fragile and conflict-affected areas. _Annex 3_ broadly outlines these minimum standards.[9]

> Phase 1 helps practitioners capture key information to understand the patterns of the conflict, the interface between seed systems and the conflict, and the status of the seed system.

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5 Acute seed insecurity is brought on by distinct, short-duration events. For example, it may be spurred by a failure to plant, loss of a harvest, or high pest infestation. Chronic seed insecurity is independent of an acute stress or disaster, although it may be exacerbated by it. Chronic seed insecurity means ongoing and often longer-term seed security issues and may be found among people who have been marginalized in different ways: economically (for example, inability to access finance, insufficient labor); ecologically (for example, in areas of degraded land); or politically (in insecure areas, or on land with uncertain tenure arrangements).

6 There are multiple tool sets that are used to assess seed security. The best known are those from the UN-FAO (**www.fao.org/3/i5548e/i5548e.pdf**) and from SeedSystem.

7 These response options are also included in the SERT and linked to specific elements of the seed security framework (Sperling et al., 2022).

8 Assessment findings and action plans from seed system security assessments can be found on SeedSystem (**seedsystem.org/field-assessments-action-plans/**).

9 The full minimum standards for SSSAs in emergency settings can be found on SeedSystem (**seedsystem.org/article/minimum-technical-standards-for-seed-system-assessment-ssa-in-emergencies/**).

Phase 1

Section 2

Additional tools: The more in-depth tools developed for a classic SSSA can be used in conflict settings of fragile states. There are four tools that should be largely sufficient for capturing insights on current seed system functioning, if an on-the-ground assessment is possible. Two help humanitarian actors understand farmer and community seed needs and demand. These are the *individual household interview tool* and the *community focus groups tools* (mixed-gender and female-only). The two supply-side assessment tools are the *agrodealer survey tool* and the *local market assessments tools*. The classic SSSA tools will be more effective if slightly modified to collect qualitative insights around the conflict context. Annex 4 contains a modified community focus group tool, as one example.

Process of data collection

For all three steps outlined in Phase 1, it is critical to consider the specific data collection practice when working in conflict-affected zones of fragile contexts. This includes considerations such as whether data will be collected in-person, remotely, or by a mixture of the two, as well as how to engage different stakeholders.

In-person and remote data collection

In *normal* assessments, even in acute stress situations such as following an earthquake, much of the assessment, including a context analysis, is conducted directly on-site. The emergence of COVID-19 has led to more remote data collection methods, and these can also be used in high-conflict areas when in-person data collection may not be feasible.

An assessment plan for an in-person context analysis versus a remote one is described below. Depending on the situation, a combination of both might also be considered. For example, a team may gather initial assessment information remotely, then complement it with in-person focus groups in farming communities, facilitated by local personnel or community members. Typically, the hardest information to gather is that concerning the wants and needs of farming communities. To collect this information, it is highly preferable to use methods that enable the data collection team to speak directly with community members.

Whether an assessment is conducted in-person, remotely, or a mix of the two, it must always be designed and administered in a conflict-sensitive and conflict-savvy manner (see sections on **conflict-sensitive and conflict-savvy processes**. Key informants must also have specialist knowledge and be trusted by, or at least not at odds with, the farming community that humanitarians aim to serve.

In-person

If an in-person context analysis process is possible, it would largely parallel the process in a standard SSSA and be based on the SSSA tools.

The principal differences between a standard SSSA and the seed system assessment elements of an in-person CAT are that the latter are conducted in a conflict-sensitive and conflict-savvy manner and the content is tailored to collect additional qualitative insights associated with the conflict context (see example in **Annex 4**).

Photo: Sean Sheridan/Mercy Corps

Phase 1

Section 2

Remote

The remote format parallels the in-person in its overall aim: to get real-time and realistic insight into the seed security situation. However, remote implies that some of the assessment team will not be on site. Farmers of course, will be on site, living there and working the fields, as will other potential key informants such as local authorities, traders, extension agents, and health workers.

There are a range of remote communication methods to consider using, including mobile phone calls, SMS, and message apps (such as WhatsApp). For non-confidential information, call-in radio programs might be an option (see **Case Study 8**). As a base for all remote data collection, practitioners need to establish a reliable information and communication network on agriculture and markets, starting with a list of key contacts from all stakeholder groups as well as reliable intermediaries who might help with the information-gathering process itself. For more specifics refer to **UN Food Security Cluster advice**.

Practitioners and their key contacts need to be able to regularly send and receive information, to and from each other. For facilitating such two-way communication, humanitarian actors might consider providing ongoing phone credit to key contacts within the target region. Practitioners can also consider other communication aids, like forming a WhatsApp group for information exchange, making sure that the process is especially conflict-sensitive and that all key names and contact information remain confidential. Practitioners may also consider remote focus group discussions facilitated by village-based agricultural advisors. Data collection methods that might be considered in active conflict zones include Kobo Collect and SurveyCTO.

When working remotely, practitioners must be vigilant about triangulating data and be aware of the background and possible biases of each information source. Practitioners should ask very clear, precise questions as remote data collection methods do not always allow for follow-up, clarifying questions.

Once the data collection and analysis are complete, practitioners should hold feedback sessions with respondents to present the findings, if it is safe and feasible to do so. This should occur regardless of whether the data was collected in-person or remotely. Feedback allows respondents to validate or clarify the findings and can spur further discussion on how best to respond practically to the conflict and seed system dynamics.

Stakeholder selection

Practitioners need to consult different types of stakeholders to fully understand the local context. Stakeholders involved in data collection, whether face-to-face or remotely, need to have verified knowledge of the actual situation on-the-ground (ie. not just office-based or desk review knowledge); should have the needed crop-specific insights (e.g.,maize versus sweet potatoes); and should be committed to giving objective insight. Stakeholder participation should also not be influenced by any expectations of receiving future aid. Practitioners might have to explicitly clarify expectations prior to stakeholder discussions.

In-person

A greater range of stakeholders might be able to participate directly in an in-person assessment, than one done remotely. Table 2 suggests the scope of possible stakeholders to be consulted.

> ❯ Assessments can take place in-field, remotely, or both

Phase 1

Section 2

Remote

For a remote assessment, the list of stakeholders consulted will likely have to be scaled down when compared with an on-the-ground assessment. This reduced selection will be informed by the basic information that is considered key, outlined in Annexes 1 to 4.

The same basic information is needed in both types of assessment. Table 2 lists stakeholders who may have detailed information on the conflict context and/ or the seed system (on-farm, informal/local markets, and formal markets). Farming communities, including internally displaced persons (IDPs), are critical stakeholder groups to provide insights. Community members, differentiated by gender, are the top priority in terms of stakeholders to be consulted.

Photo: Corinna Robbins/Mercy Corps

Refugees and IDPs

Conducting seed-related activities with refugees and IDPs can be especially challenging and potentially contentious. Seed security programs involving new arrivals thus require special considerations. Box 2 discusses key factors that might influence the type of seed intervention and whether non-seed responses should be considered

Table 2 Potential stakeholders to be consulted for on-the-ground and remote data collection

Theme	Key stakeholders who might have realistic, detailed information (including crop-specific insights)
Conflict – Context and pattern	● Civil society actors ● Local authorities (formal government, traditional leaders, and religious leaders) ● Local development committees ● Local conflict management committees ● General population in the intervention area ● Refugees and/or IDPs (if they are present in the area) ● Resident farming communities ● Security Services/Forces
Seed system – Seed security situation on-farm	● Resident farming communities ● Agricultural research institutes ● Local extension officers ● Grain and seed traders ● Formal seed sellers/agrodealers ● Seed producers, seed regulatory authority ● Farmer groups, farmer associations ● Agricultural entrepreneurs
Seed system – Functioning of local markets used for seed	● Farming communities ● Regional and local grain and seed traders (at different scales) ● Women's groups engaged in collective seed marketing ● Youth groups engaged in collective seed marketing ● Farmer groups, farmer associations
Seed system – Functioning of formal markets/seed outlets	● Formal seed sellers/agrodealers ● Seed producers ● Seed regulatory authority (if they know the local situation) ● Agricultural entrepreneurs ● Seed companies ● Local agrodealers ● Farmer groups, farmer associations ● Local and international non-governmental organizations (NGOs) engaging in seed-related activities

Box 2 Special considerations for refugees and IDPs for seed security programs

Successful emergency seed work for refugees and IDPs depends on a number of factors. For example, whether the agroecology of their new location is the same as their home areas; whether the displaced population is a cohesive one; and whether infrastructure is in place in the new area. The more unlike the new locale is from the old, the greater the challenges for a seed-related program.

Before engaging in seed-related activities, practitioners should consider three key factors:

1 Land access Seed-related work requires access to land for long enough to sow and harvest specific plots. Refugees and IDPs often move into areas where communities already live and farm. If land tenure arrangements are unclear or unfavorable towards the old or new residents, distribution of seed could aggravate already hostile relationships with the host population or among the beneficiaries. If an agency suspects that a seed-related response has the potential to stimulate conflict, alternatives (including non-seed response activities) should be explored.

2 Non-seed agricultural support Populations on the move often have relatively little agricultural equipment, especially if the move was involuntary. This means that agricultural aid may have to go beyond seed to include full sets of agricultural equipment, storage containers, food processing tools, etc.

3 Appropriate crops and seed varieties Practitioners cannot assume that traditional technical knowledge or seed transported with refugees and IDPs is adapted to the new location. Practitioners may need to introduce to the displaced new crops and varieties that are better adapted to the new agricultural zones. Alongside these, practitioners need to provide appropriate technical information (e.g.,through training or leaflets) that address the challenges of new planting materials, unfamiliar soil types, and new pests and diseases.

Given these considerations, unless a practitioner has the financial resources to support refugees and IDPs through an adjustment process, they should consider non-seed responses.

Source: Modified from ODI, 1996.

Phase 2 Analyze and identify opportunities to improve seed system functioning

Phase 2 explores how the information gathered during Phase 1 can inform both general decisions and the specific choice of seed system interventions. This phase consists of two parts. First, a *decision-making framework* lays out overarching questions that determine whether there should be a seed security response at all, followed by questions to guide more refined intervention decisions. Second, a series of case studies showcases the types of seed-related responses that might be implemented in conflict contexts to solve seed security constraints: seed availability, seed access, and seed quality (health and variety suitability). For more detailed guidance on the process of choosing and implementing an intervention in detail, visit the CAT companion guide, the Seed Emergency Response Tool (SERT) (Sperling et al., 2022).

Step 4 Decision-making framework[10]

Table 3 lays out the strategic decision-making questions needed to choose and guide the implementation of a seed security response in conflict-affected areas of fragile states. This is not a comprehensive step-by-step response guide but rather a set of questions to shape reflection on the key issues linking humanitarian action to seed security interventions in these challenging contexts. In addition to helping practitioners think through seed security interventions, the CAT explores whether seed security interventions can also be designed to explicitly link to peacebuilding efforts.

The decision-making framework for thinking about and shaping a response has three main areas:

1   Is a seed security-related intervention feasible at all?
2   Can the intervention be designed to address the seed security constraint(s)?
3   Can the intervention be tied to peacebuilding efforts?

For each decision-making question (Column 1), evidence should be identified from the information gathered in Phase 1 (Column 2), and then used to identify whether an action is appropriate.

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10 This can be used alongside the decision trees in the SERT to identify appropriate seed response options in emergency contexts.

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Table 3 Decision-making framework for action planning: key questions

1 Is a seed system intervention feasible at all?

Decision-making question	Evidence from Phase 1 Make sure Evidence from Phase 1 is concrete and from multiple sources.	Action If YES	If NO
1.1 Is the farming population ready to engage in agriculture?	1 2 3 4 Evidence from Phase 1	**Move to 1.2** ▼	Is there other crucial non-agricultural aid to support the population?
1.2 Does the population have the means to engage in agriculture (e.g., land, labor, other inputs, credit)?	1 2 3 4 Evidence from Phase 1	**Move to 1.3** ▼	Can supplementary aid help lessen non-seed agricultural constraints? If yes, what kind of supplementary aid? If no, should non-seed aid be given priority?
1.3 Are the major context changes affecting agriculture during the conflict clearly understood?	1 2 3 4 Evidence from Phase 1	**Move to 1.4** ▼	What additional information processes could be put in place to clarify the situation?
1.4 Can a seed system response be implemented in the context of these major changes (e.g., irregular markets, altered crops)?	1 2 3 4 Evidence from Phase 1	**Move to 1.5** ▼	List the technical hurdles and see whether each can be alleviated. If still no, consider other non-seed aid
1.5 In terms of 'do no harm' (DNH), can a humanitarian response be implemented in the current context scenario (consider short and longer-term effects)?	1 2 3 4 Evidence from Phase 1	**Move to 2.1** ▼	Can broad harmful effects, e.g. increased farmer-herder tensions, be alleviated with altered strategy? Can any specific harmful effects be alleviated with altered strategy? If still no, consider other non-seed aid.

2 Can a seed system intervention be designed to address the seed security constraint(s)?

Decision-making question	Evidence	Action If YES	If NO
2.1 Has the specific seed security constraint(s) been identified? (Information should be crop-specific)	1 2 3 4 Evidence from Phase 1	**Move to 2.2** ▼	What further information is needed to understand the main constraint? How can data be gathered? Do not proceed if the constraints are not clear.
2.2 Has a response that addresses the seed security constraint been identified?	1 2 3 4 Evidence from Phase 1 Show a path of response linking to the constraint.	**Move to 2.3** ▼	Can an alternate response alleviate the specific constraint? If no, consider other non-seed aid.
2.3 Has the specific response been tailored to farmers' needs in this conflict context?	1 2 3 4 Evidence from Phase 1 Detail the conflict features that have been considered in the tailored response (e.g. length of stability period, theft, market access, land access, access to labor)	**Move to 2.4** ▼	Can the seed response be tailored more specifically to the identified conflict features? If the seed response cannot be tailored, will it lead to a negative outcome? If the seed response is not tailored enough or potentially harmful in its current form, do not implement seed aid. Consider other non-seed forms.

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Decision-making question	Evidence from Phase 1	Action	
		If YES	**If NO**
2.4 Can this particular response be implemented in a conflict context?	☐ 1 ☐ 2 ☐ 3 ☐ 4 Evidence from Phase 1 Map implementation plan step-by-step to answer this question.	**Move to 2.5** ▼	Consider alternate seed system responses addressing the same seed security problem. If no alternate seed system response can be identified, do not implement seed aid. Consider other non-seed forms.
2.5 Can this particular response be implemented so as to 'do no harm'?	☐ 1 ☐ 2 ☐ 3 ☐ 4 Evidence from Phase 1 Map implementation plan step-by-step to answer this question.	**Move to 3.1** ▼	Consider alternate seed system response addressing the same seed security problem. If no alternate seed system response can 'do no harm', do not implement seed aid. Consider other non-seed forms.

3 Can the seed-system intervention be tied to peacebuilding efforts?

Decision-making question	Evidence from Phase 1	Action	
		If YES	**If NO**
3.1 Have connectors and local capacities for peace been identified?	☐ 1 ☐ 2 ☐ 3 ☐ 4 Evidence from Phase 1	**Move to 3.2** ▼	Can you conduct further consultations with community members to identify connectors or local capacities for peace that you can engage in your seed systems program?.
3.2 Does the seed system intervention involve actors who serve as local capacities for peace?	☐ 1 ☐ 2 ☐ 3 ☐ 4 Evidence from Phase 1	**Move to 3.3** ▼	Consult with those actors to determine how their work as local capacities for peace can connect to their work in the seed systems program, and then move to Q3.3.
3.3 Does the seed system intervention include people, places or any other dynamics that serve as connectors?	☐ 1 ☐ 2 ☐ 3 ☐ 4 Evidence from Phase 1		Conduct a participatory mapping of the synergies between the seed systems program and the connectors. Develop an action plan to strengthen the connectors through the seed systems program.

By the end of the process, practitioners should have a clearer picture of whether a seed intervention is appropriate; whether it can address the seed system constraint; whether it can be implemented in the given context; and whether it might also link with peacebuilding efforts. For more comprehensive 'how-to' guidance, see the SERT (Sperling et al., 2022). The information collated in Phase 1 should be analyzed and discussed in detail and should inform typical project design protocols such as theories of change or results frameworks.

Step 5 Examples of seed security interventions implemented in conflict contexts of fragile states

This section provides examples of the types of interventions that might be used in specific conflict contexts, illustrated with case studies.

Appropriate seed security-related interventions vary with the specific context. In stable situations, typical interventions might be applied to address the full range of seed security constraints, i.e., issues of seed availability, access, and quality (see SERT, Sperling et al., 2022). In conflict contexts, interventions may have to be tailored further. Table 4 summarizes examples of interventions that have been implemented to solve seed security constraints in conflict contexts, while recognizing that a given response may be appropriate for some conflict contexts but not for others.

While relatively few cases are presented here, they contain diverse responses and take place in different conflict contexts. Note that, overall, there is little documentation on seed security interventions implemented in conflict-affected areas, and even less information on their effects, whether good or bad. The case studies illustrate eight different types of seed security responses, some of which contain links to peacebuilding.

Humanitarian actors can use these cases as inspiration when analyzing the information from Phase 1 and consider seed-related interventions. The cases have been organized by the seed security constraint they aspire to address, whether availability, access, or seed quality (both seed health and variety suitability). We have also added a seed security constraint on information. In conflict texts, accurate and up-to-date information is key and may be particularly challenging to obtain, particularly given that information exchange may be done remotely.

Table 4 Summary of case studies presented

Seed security constraint	Case study example response/country
Seed availability	**1** Storage pits/bags – Ethiopia, DRC **2** Locally produced seed moved laterally: modified direct seed distribution – Mali, South Sudan **3** Local market support: subsidy to traders – South Sudan
Seed access	**4** Peace and Rights Days with direct seed distribution – Sierra Leone **5** Digital voucher transfer linked to small seed suppliers – Northeast Syria
Seed (and crop) quality	**6** Multi-year quality seed production (dual focus on new varieties and seed health) – DRC **7** Conflict-resilient crops – Rwanda, Ghana
Information	**8** Critical remote tools (for information, training, and feedback) – Sierra Leone

Photo: Sean Sheridan/Mercy Corps

Seed availability

When intervening in conflict contexts, humanitarian actors typically rely on quick and direct seed distribution (DSD), often transporting seeds long distances. However, depending on the nature of the conflict and humanitarian access capabilities (e.g., if interventions on-the-ground are possible), there are at least three additional actions that practitioners can consider to bolster seed availability: improving seed storage, moving seed stocks (informal seed) from one region to another, and supporting local markets.

Seed storage pits/bags

Promoting enhanced seed storage can be an important seed security activity, in both normal and conflict periods. There are distinct advantages to farmers storing their own harvests during conflict periods: the seed is adapted, immediately accessible, and cost-free.

Practitioners have promoted various interventions in stress situations to help farmers store seed more effectively, including underground pits and hermetic bags (see Case Study 1), metal silos, plastic water bottles, and vegetable oil tins.

Photo: Dieudonne Baributsa/Purdue University

Case Study 1 Storage pits and hermetic bags

Helping farmers store the seed they have: storage pits, hermetic bags and other options

Ethiopia In southern and eastern Ethiopia, above-ground devices and underground pits have been used to store grain and seed. GOAL, an international humanitarian response agency, helped design above-ground stores similar to traditional ones but sturdier and equipped with rat guards. The below-ground stores were modified with improved ventilation and drainage. The pits can serve as a form of insurance during conflict periods as they can be hidden from looters or thieving neighbors.

The Democratic Republic of the Congo (DRC) In the protracted areas of conflict in North Kivu, DRC, lightweight hermetic bags were introduced to store seed and grain on an increasingly large scale. Hermetic bags have some advantages over pits because they are movable (if displacement is necessary) and can be hidden as needed, such as up in rafters or dug into garden plots. Different brands of bags have been effective, such as the well-known Purdue Improved Crop Storage (PICS) and GrainPro bags.

Sources: Mengistu and Garrard, 2014; Baributsa et al., 2021a

Photo: Elizabeth Dalziel/Mercy Corps

Moving locally produced seed

Enhancing farmers' seed availability may be possible by moving local seed from one region to another. One advantage of this approach – as distinct from routine DSD of imported seed – is that the funds for seed purchases are recirculated within local economies and have the potential to reinforce fragile local businesses. The cases highlighted for South Sudan and Mali (Case Study 2) both unfolded in high-conflict contexts, delivering the main staple crops and highly adapted local varieties. Additionally, both cases are rooted in seed supply from local farmer cooperatives and local markets, not from outside humanitarian sources. Helping get seed to farmers on time, through local procurement, might also be an advantage.

> ❯ Seed interventions can sometimes be linked to peacebuilding

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Case Study 2 Moving locally produced seed

Moving seeds locally, from one region in-country to another (assuming similar agroecologies)

South Sudan In March 2014, the UN-FAO, in collaboration with the State Ministry of Agriculture and Non-Governmental Organizations, carried out a seed security assessment (SSA) in Northern Bahr el Ghazal State. Results from the focus group discussions showed that, within the State, there was no major problem of seed availability, quality, or suitability of the local varieties for the major crops – sorghum, groundnut, and sesame. This finding resulted in a pivotal change in emergency seed programming. Humanitarian actors shifted their response away from importing seeds towards collection of locally produced and adapted seed from farmers' organizations and local markets. The local seed was then moved from less affected areas to highly food-insecure areas. The strategy shift also decreased the time it took to complete the operation, meaning vulnerable farmers received seed of their preferred crops in time for the upcoming season.

Mali Northern Mali (Douentza district) has experienced ongoing conflicts since 2012. Apart from the conflict, the area is characterized by frequent drought. Farmers in this Sahelian zone may face some of the harshest conditions for crop production, even in normal times: rainfall of 200 to 400 mm/year, temperatures rising to 50°C and very sandy soils.

Pearl millet dominates agricultural production and farmers prefer to grow their own varieties, as the range of adaptation is unusually narrow. Seed security in this stressed region depends on finding the right crop, good quality seed, and the right, highly specialized set of varieties.

The challenges of seed aid are formidable in many climate-stressed (and conflict-stressed) zones but become even more formidable in this northern zone of Mali. Luckily, a cluster of villages – Tabi, Tega and Toupere – have a good reputation for the quality of their pearl millet seed and are renowned for producing an early-maturing pearl millet variety (which can yield in only 65 days), with a much appreciated quality of grain.

While long having a thriving local (traditional) business, farmers in the village cluster formed a successful seed cooperative a few years ago. They now manage to sell their local seed widely, even as far as Burkina Faso and the Malian city of Segou (600 km away). Also, in a more recent development, this cooperative has linked with the in-country aid business and is also selling seed to relief agencies such as the Red Cross/Red Crescent at the request of Malian farmer aid recipients. In fact, the cooperative sold 41 MT in relief seed in 2018 alone.

Sources: FAO, 2014 (South Sudan); Dalohoun et al., 2011; CRS, 2006 (Mali); H. Guindo, pers. comm.

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Local market support

Local markets are essential for smallholder seed security in stress periods, especially for the poor, IDPs, and other vulnerable people (McGuire and Sperling, 2016). Finding ways to support local markets in conflict contexts can bring both immediate and longer-term benefits. Case Study 3 gives one example of support through use of a transport subsidy for traders serving remote areas. For a range of local market support options linked to seed, see Walsh and Sperling, 2019.

Case Study 3 Local market support

Transport subsidies to traders in South Sudan seed fairs

On April 3, 1999, Catholic Relief Services (CRS) carried out its first seed fairs in South Sudan. The fairs were located outside of Rumbek town, Rumbek County. In advance of the fairs, CRS met with groundnut traders identified through Rumbek County agricultural extension staff and county officials. Two traders agreed to bring groundnut seed to the fair and for the seed to be inspected by agricultural extension staff. To attend, they requested transport support

from CRS to bring the seed from their warehouses to the fair and then back, after the fair.

During the fair, CRS noticed the two traders had colluded to set a price for groundnut seed that was close to 30% above the local market price. Even so, nearly all of the groundnut seed brought to this fair was purchased by farmers with vouchers as the groundnut seed was in such high demand.

Source: S. Walsh, pers. comm.

Photo Louise Sperling/SeedSystem

Seed access

Seed access tends to be the most common constraint identified in seed security work (Remington et al., 2002), and access issues are often exacerbated in conflict contexts. Difficult logistical and geographical access means that DSD is frequently promoted, even if the main constraints to access are financial. Cash and voucher assistance, moved directly or digitally, is becoming increasingly common and often allows for faster and more efficient seed delivery. Case Studies 4, 5 and 6 illustrate various options for addressing farmers' seed access issues.

Direct seed distribution

Seed access is sometimes facilitated through DSD as seen in several contexts below. Case Study 4 shows how challenging seed access programming can be in conflict contexts, even exacerbating conflict or leading to elite factions capturing the major benefits. There are two such cases described below. One shows how DSD was actively complemented by peacebuilding efforts as community tensions rose sharply at first disruptions. The second conducted a desk-based review and showed that those in higher conflict contexts received relatively less in-kind assistance, possibly also due to elite bias.

Photo: Rodrigo Ordonez/Mercy Corps

Case Study 4 Direct seed distribution

Sierra Leone
Peace and Rights Days linked to direct seed distribution

In the aftermath of Sierra Leone's long civil war (1991-2002), humanitarian agencies responded with interventions such as seed and tool distribution and food-for-work. Seed is a resource with considerable symbolic and practical significance and distribution inequalities can rekindle hostilities. Action-based research was conducted by CARE International in the war zone of central Sierra Leone in 2001. It assessed seeds-and-tools programs in 19 villages and focused on agency targeting and distribution modalities. The results showed that the inputs had been channeled through village development committees (VDC) and that a range of intended beneficiary groups – IPDs, younger people who had reportedly been disrespectful to the chiefs, marginalized committee members with lower social capital, etc. – had been denied assistance. There were other reported transgressions, differing by VDC. For example, one VDC decreed that only people over 40 years could receive aid. The overall sentiment from the research was that the village elders and elites had largely captured the benefits of aid.

CARE responded with a pilot project, their Rights-based Approach to Food Security Project. Under this project, village-level Peace and Rights Days were held to allow villagers to debate the vulnerabilities that facilitated the war and to elaborate on local notions of human rights. In symbolizing new beginnings, seed aid distribution modalities were discussed, with seed aid seen as a useful topic to debate in the context of a more inclusive – and ultimately less vulnerable – community. Following these discussions, CARE developed an inclusive seed aid distribution

approach. While more inclusive seed distribution meant smaller amounts for all, the aid was tailored. For example, some wanted rice, others groundnuts, and recipients could request specific varieties (e.g., a small-grained, three-month African rice variety).

The Peace and Rights Days provided a space for debating the rationale of the seeds-and-tools intervention and any problems with registration or distribution.

South Sudan
Comparing delivery modalities

This case, centered on a desk-based analysis, combined a geo-referenced household dataset collected in South Sudan in 2017 with the Armed Conflict Location and Events Data (ACLED), including information on conflict events. The analysis looked at the variation in conflict exposure across different households that live in the same district and then tested the link between conflict exposure and humanitarian assistance. The analysis found that those who live in the higher-intensity conflict areas received less assistance than those less exposed to the conflict. The association was stronger (i.e., greater disparity) with in-kind provision of inputs for agriculture and livestock than with direct food assistance. The authors propose the presence of social elites and marginalization as possible explanations.

The authors additionally reflect on the advantages of using cash transfers through mobile phones to normatively decide beneficiaries. They conclude that "more evidence is needed on the modalities of delivery of humanitarian assistance in different food crisis contexts."

Sources: Archibald and Richards, 2002 (Sierra Leone); D'Errico et al., 2020 (South Sudan).

Digital transfers

Digital cash or voucher transfers are now a key channel for the delivery of humanitarian assistance. Some practitioners see digital transfers as a 'game changer' because the scale and speed of delivery can be greatly increased. Practitioners must ensure these benefits are balanced against the risks, including data protection in conflict contexts that disguises the identity of both providers and aid recipients (Burton, 2020).

Case Study 5 Digital voucher transfer

Helping farmers access vegetable seed in small seed supplier shops

The conflict in Syria has had a severe impact on the availability of and access to food and agricultural inputs. Before the conflict, agriculture was a key pillar of the economy, providing work for most of the population as well as a regular supply of staple foods. Even today, the sector still accounts for an estimated 26% of Syria's gross domestic product but support for farmers has significantly decreased.

Despite the efforts by the authority of the Kurdish Self-Administration to support the agricultural sector in northeast Syria, farmers there experience severely restricted access to agricultural markets and quality agricultural inputs, particularly seeds. This has led to an overall reduction in food production and income-generation opportunities.

To overcome constraints in seed access, in July 2020, Mercy Corps, through its electronic voucher system, worked with different vegetable seed suppliers to provide quality seeds to conflict-affected, vulnerable vegetable farmers. The activity was guided by different market assessments conducted by Mercy Corps and other NGOs in the target markets. Assessments confirmed that quality seeds were available but vulnerable farmers could not afford the local market prices. Also, there was indication of an increasing number of private sector actors working in the markets to bridge the gap created by a reduction of government subsidies.

Mercy Corps decided to support the local seed suppliers by providing vulnerable farmers with e-vouchers. Before implementation, Mercy Corps took seed samples from all the selected hybrid vegetable seed suppliers and arranged a quality check that included a physical check and germination test. A total of 700 farmers received e-voucher smart cards that were redeemed in the seed suppliers' shops.

Source: H. Rasho, pers. comm.

Photo: Ezra Millstein/Mercy Corps

Seed (and crop) quality

Seed quality issues remain among the hardest to deal with in emergencies, whether conflict-related or not. Improving the different aspects of quality (seed health and variety suitability) nearly always demands longer time horizons, technically specialized staff knowledge, and follow-up among farmer recipients that extends several seasons (to determine whether quality is improving, whether farmers continue to use the innovation, and whether there have been any unintended risks). A common intervention for seed quality in emergency contexts involves directly distributing new varieties or clean planting material such as for vegetative-propagated crops like sweet potato. However, the use of this type of intervention alone tends to have limited impact due to scalability challenges and lack of technical back-up.

Two instances of seed quality-related assistance are described below: one on seed production and the other on conflict resilient crops. The focus on conflict-resilient crops is especially novel: instead of just recommending a new variety, even the choice of crop is tailored to the conflict context. As the concept is relatively new, further monitoring would be warranted to determine the full usefulness of such an approach.

Fostering quality seed production

Working on seed quality, i.e., the health of seed, is always a multi-season or even multi-year process. Yet organizations like the International Committee of the Red Cross (ICRC) are starting to engage in such work, recognizing it is worth the ongoing investment.

Case Study 6 **Fostering quality seed production**

Working upstream with local seed producers to improve seed quality

The ICRC distributes seed and tools directly as a common response in protracted crises such as those in the DRC, Central African Republic (CAR), and South Sudan. This response aims to provide people with materials to plant and harvest, enable farmers to become independent, and decrease the role of food aid. However, a problem identified by the ICRC with this approach is poor seed quality.

From a 2016 report, ICRC notes, "The poor quality of some seed has heightened the risk of lower yields for some people, and the ICRC has decided that program performance could be raised by improving seed quality and, simultaneously, by developing local seed production capacity and expertise. Working upstream with local seed producers is a long

game but one that may achieve several goals: better seed, capacity building, and cost reductions. Results from one study in the DRC showed that investing in high-quality seed production may increase the yield of a harvest by up to 300 per cent. To do so successfully, however, requires an investment of at least three years to harvest and breed (i.e., multiply) the seeds with a reliable local partner."

This is a promising approach to addressing seed quality issues. Importantly, engagement in seed production – normally a development actively – demands a level of stability that allows partners to engage over an extended period of time. The seed not only has to be produced, but also distributed and marketed over time and at the critical sowing periods.

Source: ICRC, 2016.

Conflict-resilient crops

The notion of conflict-resilient crops is an evolving one. It loosely refers to crops that are not usable in their raw form (so not worth stealing for immediate use); do not require intensive management (so they can be left unattended for weeks or months); and are very easy to transport (presumably so displaced persons can move with the seed and maybe some of the harvest). The specific identification of such crops has been varied. In the DRC, soybean, cocoa, and vanilla have been labeled as conflict resilient as they require considerable processing. Additionally, quinaquina trees (harvested for their bark) and cassava bear relatively well in periods of conflict as they can be left in the ground for weeks and months with no tending at all. (Mercy Corps, 2018; Baributsa, 2021a).

A humanitarian strategy to focus on conflict-resilient crops would fall into the 'quality feature' category as one is promoting one crop type (i.e., variety) over another. Practitioners have confirmed that such crops are indeed centrally important to farmers, either for food or for sale.

Case Study 7 Conflict-resilient crops

Gender differences in access to quality, conflict-resilient crops

In the northern savannahs of Ghana, a study reveals that the gender of the household head is significantly related to seed security amid conflicts. Female-headed households were more likely to rate themselves as seed secure amid conflicts than male-headed households. This result is explained by typical crops cultivated by each gender and the extent of extra village seeds acquisition by each gender.

Male-headed households were found to be predominantly engaged in farming yams, whereas female-headed

households tended to cultivate groundnuts. Groundnut seed is relatively easy to transport and is generally sourced nearby. Yam seeds are bulky and costly to transport home after harvest, and are usually stored on-farm, making the seeds prone to destruction during conflicts. Additionally, male-headed households resort to traveling to neighboring communities more than their female counterparts to access seed during planting. Their ability to travel becomes impossible during conflicts due to the curfews imposed by the government and fear of insecurity.

Source: Madin, 2020.

Seed security-related information

As a final feature of seed security interventions in conflict contexts, information may warrant specific programming. Whether humanitarian actors are programming for seed availability, access or quality, they should have an integrated information component that encompasses two-way information systems: information to farmers and feedback from farmers (Walsh and Sperling, 2019). In conflict-affected areas, reliable, up-to-date information may be a scarce commodity, making it especially important for humanitarian actors to consider explicit programming for good access to information.

Unfortunately, we have not yet seen a seed security-related case conducted in a conflict context with an emphasis on access to information. To illustrate the importance of this feature, see Case Study 8 which shares an example of a seed security intervention implemented in Sierra Leone during the time of the Ebola outbreak.

Case Study 8 **Seed security-related information**

Storage technology to safeguard seeds and food in Sierra Leone during the 2014 Ebola outbreak

When Ebola escalated in Sierra Leone, the government fairly quickly declared a public health emergency. Movement was highly restricted to local zones and markets (i.e., the venues where many smallholder farmers source their seed) were largely closed. Ebola cases expanded in the early- to-mid growing season of several major crops such as rice, maize, peanuts, and beans. A key issue for farmers was how to secure the upcoming harvest and make sure that seed was saved for the next season's planting. Most humanitarian agencies responded by focusing on the 'how-to' of bringing inputs in. A few, however, reflected that it would be equally important to safeguard what was already in farmers' hands, including locally saved seed.

There had been previous pilot work on hermetic storage bags in Sierra Leone, so the effectiveness and acceptability of the Purdue Improved Crops Storage (PICS) bag technology for farmer use had been established over several seasons. The challenge was at least two-fold: to scale up the operations and to ensure that farmers had the necessarily information and skills to use the technology effectively.

The project was conducted in four districts country-wide. Much of the work was done remotely and quickly. There was a national-level training of trainers (ToT) of 20 partner staff, followed by district level training, in person, with 105 extension agents (EA) trained over the four districts. EAs then worked in their respective communities in a decentralized manner, distributing PICS bags, training and carrying out demonstrations with small groups of farmers, and monitoring. Ultimately, 3728 farmers received PICS bags and stored paddy rice, rice seed, maize, cassava chips, and beans.

One of the biggest program emphases was on creating remote information capacity. Cell phone videos and posters helped pass on technical information; a text messaging system was used to get farmer feedback via Skype, WhatsApp, and SMS; and radio jingles, ads, and talk shows promoted awareness.

Additionally, this intervention, conducted during a crisis, laid the foundation for post-Ebola PICS bag commercialization.

Source: Baributsa et al., 2021b.

National partners: MAFFS, Caritas and SEND, SLARI, UltraMedia, WARC; International partners: CRS, Cordaid, Purdue University

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Conclusion

Humanitarian actors' experience of linking seed system work to peacebuilding efforts needs to be broadened significantly and quickly. To date, the most common seed-related intervention in conflict contexts has been to import the seed, distribute it quickly – with limited understanding of the context – and then exit. The CAT methodology aims to help practitioners move beyond this approach, as suggested by the cases above. One has to understand the specific features of a conflict context, identify the seed security problem, and then determine the type of response that is possible to implement, while also doing no harm. This CAT methodology is a modest beginning for promotion of better practice. We still have much to learn around working in these very challenging contexts.

Section 3 Practical tools

The annexes include tools that can be used for more in-depth conflict sensitivity analysis, for seed systems analysis, and for data collection.

- <u>Annex 1</u> Conflict analysis guidelines
- <u>Annex 2</u> Seed systems and conflict interview guide: broad issues
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Photo: Sean Sheridan/Mercy Corps

Annex 1
Conflict analysis guidelines

General conflict analysis guidance and questions

This Annex provides basic guidelines for conflict analysis conducted in relation to seed systems programming. There are a number of formal conflict analysis tools that can be used alongside these guidelines and questions to bolster the analysis, such as from the US Agency for International Development (USAID), the Swiss Agency for Development and Cooperation (SDC), and the Conflict Sensitivity Consortium.[11] Program teams should review the formal tools and determine which, if any, are needed to complete their conflict analysis.

Objectives of the conflict analysis The initial step in conducting conflict analysis is to define its specific objectives. At its most basic, the objectives may include the following:

1   To describe the key conflict dynamics in the intervention area
2   To identify the key actors and groups involved in the conflict in the intervention area
3   To assess existing mechanisms that are preventing or resolving conflict in the intervention area
4   To explore potential opportunities for the seed systems program to contribute to peacebuilding in the intervention area

The data collection methodology should include the following information:

- Target Locations
- A list of key respondents (as broad as possible to include different groups involved in the conflict who may hold differing perspectives crucial to understanding the conflict)
- Timeframe for the analysis
- Data collection methods (e.g., key informant interviews, focus group discussions, surveys)
- A list of members of the analysis team (e.g., analysts/researchers, data collectors, interviewers, focus group facilitators, note takers)
- Budget (where applicable)

The conflict analysis report can be written as a full narrative document or simply as a table of information. The most important consideration is how to present and share the information such that program teams can act on it. It can include the following:

- Overview of the major conflicts
- Causes of the major conflicts
- Key actors involved
- Existing conflict prevention and resolution mechanisms and actors
- Opportunities to contribute to building peace
- Recommendations from local stakeholders to address the conflict
- Recommendations from the analysis team to address the conflict

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11   See the following technical tools for further information: **USAID, 2012; Conflict Sensitivity Consortium, 2012 ; Mason and Rychard, 2005**..

Questions we want to answer

A thorough conflict analysis will cover most of the questions below:

- What are the key conflicts?
  - What is the nature of the conflicts? Are they primarily political, social, economic, cultural, or ideological?
  - What is the history of the conflicts and how did they develop to this point in time?
  - What are the key dividing lines in the society? Which ones have the most potential to lead to violent conflict?
  - Is there a seasonal intensification to the conflict?

- What is causing the conflict?
  - What are the root causes of the conflict? Is natural resource use (e.g., land or water) a cause?
  - What are the key driving factors that contribute to conflict? Which of these factors are most enduring and likely to exist over the long term?
  - How do gender dynamics feed the conflict? What role does gender play in shaping conflicting ideologies?
  - What role does a generation gap play in fueling the conflict?

- Who is involved in the conflict?
  - Who are the primary and secondary stakeholders in the conflict? What are their core positions and interests? (This can include groups, institutions, and individuals).
  - What is the role of women within these groups?
  - What is the role of youth?
  - What is the state of relationships between authorities/power brokers and citizens?

- What are the existing conflict prevention and resolution mechanisms, and who are the actors?
  - Who are the facilitators of peace? What level of influence do they have over the system?
  - Who, within each conflicting group, seeks peace and is an actor we can work with?
  - What common ground exists among adversaries in the conflict?
  - What role do women play in building peace and how can we engage them?
  - What role do youth play in building peace and how can we engage them?

- Opportunities for seed systems programming to contribute to peacebuilding
  - What effect does conflict have on seed supply chains, investment in seed production and marketing, and profitability of local seed traders and private seed companies?
  - How does the private seed sector understand its role in promoting peace (or conflict)?
  - How can seed markets (i.e., a connector) support existing local conflict prevention and resolution mechanisms?

- Ask the respondents to recommend ways to address the conflict.

It might not always be feasible to go into this level of depth in the conflict analysis. Furthermore, in individual interviews and focus group discussions, you may not have enough time to cover all the questions above. It is therefore important in each interview or focus group discussion to prioritize certain questions. If you are conducting multiple interviews and focus group discussions, ask different questions in different sessions so that you can cover as many areas as possible overall.

Framing the questions to ask

Asking the above questions too directly may not be effective or safe as conflict is a sensitive topic to discuss and requires trust to be built first. Therefore, it is better to ask open-ended questions at the outset of a focus group or key informant interview to get the conversation started. Examples of some questions to start with include:

- On conflict
  - How do you see the future in this area?
  - What has changed the most in the past year in this area?

- On peacebuilding
  - How do you feel about efforts to promote dialogue among groups in tension?

- How did your community handle conflicts in the past?
- How could conflicts be handled more effectively?
- Could you describe a situation when you felt involved in a process to help resolve conflict?
- If you were to advise a local leader or government official about how to minimize this conflict, what would you tell them?

By opening with questions of this nature, you can build trust and rapport with your respondents. You should also allow respondents to answer questions in the manner and time of their choosing. As you progress in the discussion, you can see which of the questions have already been addressed, and then, if needed, steer the conversation to the questions that have still not been answered by asking them more directly.

Conflict Prioritization Matrix

A conflict prioritization matrix can be used in conjunction with the analysis described above. This tool can help seed systems program teams determine which conflict(s) are most relevant to the community and to seed system security, and which may have the most impact on peacebuilding. This can guide teams on how and where to address conflict dynamics in their intervention area. After conducting the conflict analysis, the analysis or program team can fill out Table 5.

Table 5 Conflict prioritization matrix

Option	Scoring		Total
List the conflicts you are evaluating	Score each conflict on a scale of 1 (highest), 5 (lowest) for each criterion		Multiply the scores for all criteria for each conflict
	Relevance	**Impact**	
	How important is the topic to the community and to seed systems?	How much impact can we have on peacebuilding through seed systems interventions?	

Annex 2
Seed systems and conflict interview guide: broad issues

The following themes and questions can be incorporated into focus group guides, key informant interviews, etc. For each of these questions, be cognizant that women, men, and youth may be differentially affected by conflict. The interviewer should probe into these differences to better understand the agriculture- and seed-related constraints and opportunities each group experiences as a result of the conflict context.

Table 6 Conflict features that may affect seed system programming

Conflict feature	Questions to consider
Length of stability period	● Can farmers expect to harvest what they plant?
Theft	● What is the degree of theft from fields? ● What is the degree of theft in storage (households and community facilities)? ● Are any stocks truly safe (and using which methods)?
Labor (changing access to labor and labor-sharing arrangements, out-migration, or casualties)	● Can farmers harness the amount of labor they need? ● Are people still willing to share or sell services? ● Has there been outmigration of men or older boys, resulting in a lack of heavy labor or major changes in roles? ● Is there sufficient mobility for people to move and work? (If restricted mobility, with what effects?)
Risk of displacement	● Is the agroecology similar to their 'home fields' and/or will farmers have to modify their crop choice and previous (known) farming practices?
Military tactics	● Does a military or non-state armed group presence affect the kind of crops grown or their management?
Market access	
Formal markets	● Can farmers buy certified seed? ● Will foundation seed be available for further multiplication?
Local/informal markets	● Can farmers sell their grain and seed? ● Are markets functioning and transport routes open? ● Is high-quality seed available?
Output markets (e.g., processing, canning)	● Can farmers access supplementary inputs such as fertilizer, pesticides, storage facilities, and chemicals? ● Are output markets operating that might affect seed or other input use (and that might influence which crops are planted in the first place)?
Land access (whether owned or for use)	● Can farmers access sufficient planting areas? Do farmers feel secure in their land access rights?
Credit arrangements	● Has conflict diminished credit arrangements?
Discrimination	● Are certain groups prevented from obtaining access to the market, land, or employment?
Agriculture-linked infrastructure	● Has conflict affected any irrigation facilities, dams, or other essential land management structures?

Broad questions to understand the context:

- What have been the major positive or negative changes, if any, in this region since the conflict began? Specify broad timing of 'conflict period'.
- Has the conflict had any negative or positive effects on agriculture in this region (describe)?
- Do households generally practice agriculture in the same way (Y/ N) (explain)? Are there any changes in practices specific to women or youth? Have there been any major challenges due to conflict? Are women or youth experiencing any challenges different from men?
- Have there been any major challenges due to other stresses (specify other stresses)?
- Have there been any opportunities that have resulted from the conflict (explain)?

Specific questions linked to the conflict and its time period:

- Have land arrangements changed?
- Have labor or cooperative arrangements changed?
- Have the key supply channels changed for key agricultural inputs (Y/N) (specify which inputs)?
- Have the ways in which women or youth access inputs changed?
- Has the marketing of crops changed in any way?
- Have any credit arrangements changed? Have the ways in which women or youth access credit (or other financial services) changed?
- What is your normal source of seed (by major crop)? Has the conflict changed this?
- Probe into local markets: Are they functioning? What is the seed availability, access, and price?
- Probe into seed source differences for women, men, and youth.
- Probe into formal markets and companies.
- Probe into seed sharing.

Specific questions linked to crop issues

- Has the conflict changed any of the following:
  - Type of crops planted? If yes, with what consequences?
  - Types of varieties planted? If yes, with what consequences?
  - Timing of planting? If yes, with what consequences?
  - How crops are managed? If yes, with what consequences?
  - Who manages crops? If yes, with what consequences?
  - Other crop-specific practices?

Annex 3
Minimum technical standards for SSSA

Minimum technical standards needed for a Seed System Security Assessment (SSSA)[12] have been established by the UN-FAO and SeedSystem, with technical support from USAID. They enable humanitarian actors, governments, funders, and other stakeholders to have greater confidence in assessments performed by a wide range of actors. These minimum standards focus on the key data needed for an SSSA to be considered technically sound. The data should be collected whether the assessment is done remotely, face-to-face with stakeholders, or by combining both methods. Practical tools for use in the collection of the data to meet these standards are summarized in Annex 4.[13]

The full set of minimum standards can be found at seedsystem.org/article/minimum-technical-standards-for-seed-system-assessment-ssa-in-emergencies/. The standards need to paired down and tailored for use in conflict contexts of fragile states. This Annex summarizes the broad categories of information needed to ensure that a reliable SSSA is conducted.

1 Brief description of disaster/stress
- Overview of salient broad conflict features that could affect agricultural intervention
- Initial appraisal showing agricultural recovery is contextually possible and appropriate
- Timing in the season when the disaster hit and, with it, the possible effects on crop production
- Indication that this is an acute stress, a chronic stress, or both.

2 Rationale for specific seed security-related assessment
- The rationale for conducting an assessment, including insight into how the stress/disaster could affect seed security and lead to a negative impact on production, nutrition, resilience, income, or other outcomes.

3 Place
- The general and specific locations where the assessment was done, description of sites, etc. to help interpret the findings.

4 When/timing of assessment
- Indication that the timing of the assessment will allow for a response tailored to a particular season(s). Also, the logistics must demonstrate that any aid can be delivered on time, during farmers' normal sowing period.

5 Background work (critical elements of preparatory work)
- Knowledge of agricultural seasons, crop calendar, major crops for each main season
- Knowledge of how formal and informal seed sectors operate in the area (and for which key crops)
- List of crops/varieties particularly adapted to the area and to stress
- Understanding of farmer preferences for crop/variety for market crops and for home consumption
- Insights into changing crop/variety use over 5 to 10 years (e.g., were they market-driven? Or climate-driven?)

6 Broad content of assessment (5 essential actions)
- Includes all seed systems farmers may use: formal, informal, and integrated
- Focuses on seed or planting material plus other essential accompanying inputs that are routinely used (e.g., fertilizer and pesticides) as well as postharvest and storage practices that affect seed
- Focuses on annual crops key for food security, nutrition, resilience to climate stress, and income
- Analyzes the farmer-expressed need/demand, as well as supply side requirements
- Differentiates among farmers (e.g., by gender of household head or land size cultivated)

7 Field evidence needed: Farmer need/demand side
- Where farmers have obtained seed, by crop, before the disaster, and where they plan to obtain their seed (is this pattern 'normal', adaptive, or otherwise?)

- Some indication of amounts sown or to be sown, relative to a 'norm'. Are farmers planting more, less, or the same as they 'usually do'? (is the land area sown 'normal'?)
- Understanding of the 'why' for planting patterns, including changes in crop choice or sowing patterns (are the constraints related to seed or to non-seed factors such as labor or security?)
- Some insight into how much money is/has to be spent on seed for the current and next season (note that this may have to be modeled, if field data is not available)
- Understanding of differences among groups (by gender, household and land size, residency status, etc.).

8 Field evidence needed: Supply side
- Understanding of the different types of markets supplying seed and planting material to farmers for different key crops in the current stress period (formal and informal markets, intermediate community-based seed producers, and others)
- Analysis of market functioning in stress period, e.g., can market days be held?
- Analysis of the current and potential supply: crop/variety availability, price, and quality
- Insights on any particular crops/variety supply gaps

9 Critical indicators if problems/constraints are identified (with explanations)
- Need for transparent and specific indicators of any problems or constraints identified. The seed security framework is one possible tool for investigating these.

10 Critical indicators: opportunities
- Need to examine any opportunities (even in conflict, there may be opportunities). Consider new markets/services, new crops/varieties, and positive farmer coping strategies.

11 Response choice
- The goal of the assessment is to identify a response strategy and programming plan. Both short-term response (1 to 3 seasons) and medium-term response (3 to 5 seasons) should be routinely considered.

FINAL NOTE: Assessments should be professionally written up and disseminated to key decision makers, including in the local official language.

Annex 4
Field tools to assess specific seed security situation

There are multiple tool sets that are used to assess seed security. The best known are those from the **UN-FAO** and from **SeedSystem**.

Both toolkits have the same basic elements. They contain an individual household interview tool and community focus groups tools (mixed-gender and female-only) to understand farmer and community need and demand. There are also several supply-side assessment tools such as the agrodealer survey tool and local market assessment tools.

These tools have been used extensively. However, to collect qualitative insights around a conflict context, they need to be slightly modified. Annex 4 contains an example of a community focus group tool tailored to conflict contexts, adapted from the SeedSystem tool.

Photo: Elizabeth Dalziel/Mercy Corps

4.1 Focus Group: Community-Based Interview (for CAT)

Region	District	Village	Note recorder
Group Interview: # Total	# Men	# Women	Date

The questions below are broad, guiding questions. It is key to stimulate discussion and insights on strategy.

Section 1 Overall crop profiles and trends (quick overview) – current situation

1   We would like to learn about the main uses of your most important crops for food and/or for income. Please rate their importance as High (H) Medium (M) or Low (L). Also indicate if any of the crops are further transformed.

Crop	Use for food	Use for income	Use for nutrition	Use for combating weather variations	Any transformation? Specify
	(H***, M**, or L*)	(H***, M**, or L*)	(H***, M**, or L*)	(H***, M**, or L*)	

Indicate which crops are most important for **food security**	
Indicate which crops are most important for **income**	
Indicate which crops are most important for **nutrition**	
Indicate which crops are most important for combating **weather variations**	

2   For the last 3 seasons, how would you rate each season overall in terms of your key crops: good, average, poor (starting from most recent season)?

Key crops	Current season	Previous season	Second previous season
	Date: Good, average, poor	Good, average, poor	Good, average, poor

3 In the last five years, have there been changes in proportions of crops planted in your community? (Be sure to probe into whether there are conflict-related changes in crop use).

▲ Crops gaining in area, and why	▼ Crops decreasing in area, and why

Any new crops in the last 5 years

4 Generally, what have been the major constraints you have faced in agriculture over the last five years (or since conflict began/escalated), and what do you see as the opportunities? Probe into patterns of conflict and agricultural operations; possible direct questions (after open discussion):

- Have land arrangements changed?
- Have labor or cooperative arrangements changed?
- Have the key supply channels changed for key agricultural inputs (specify which inputs)?
- Has the marketing of crops changed in any way?
- Have any credit arrangements changed?
- Other

Constraints to production, last five years	Opportunities

5 Focusing on seed, are there any concerns/constraints you want to signal? Specify the crop.

Crop	Concerns tied to production of seeds?	Concerns tied to storage of seeds?	Other?

Section II Strategies for obtaining seed: mapping of seed sources

6   For each of the three major crops, please MAP major seed sources used by the community. (See 4.2 **Seed Mapping Tool**).

    A   Map the seed sources for this current/most recent season (specify season/year). Discuss:
- What are the main sources of seed
- Rank the importance of sources: 1 = most important, 2 = second in importance, 3 = third in importance.

    B   Map the seed sources as they were 5 years ago – or in relation to conflict (specify year).

    C   Compare the current seed sources with those five years ago (or since conflict began/ escalated). Discuss:

- What have been the major changes in the last 5 years, as it relates to seed sources?
- Why have these changes occurred?
- Are they positive or negative changes?
- What are the advantages and disadvantages of using different seed sources?

Section III Community assessment of seed security and insecurity

Seed security means that a household has the seed it needs (in house stocks / harvest) or that it can get the seed it needs, for example, through purchase or barter

7   In this community (specify bounds of community): think about this **past season**. What proportion of households would you have considered **seed secure** for the three important crops grown (that is, they had seed already or were able to get it.)? Go crop by crop, for the three important crops grown.

Crop	Out of 100 households, how many grew the crop?	Out of those who grew the crop, how many will be seed secure this upcoming season?	% who are seed secure

8   In this community (specify bounds of community): think about the **upcoming season**. What proportion of households would you consider **seed secure** for the three important crops grown (that is, they have enough seed already or are able to get it)? Go crop by crop, for the three important crops grown.

Crop	Out of 100 households, how many plan to grow the crop?	Out of those who plan to grow the crop, how many will be seed secure this upcoming season?	% who are seed secure

9   For those who are seed insecure, what might families or the community do to relieve seed insecurity? Go crop by crop.

Crop	Actions to relieve seed insecurity for those in need

Any other comments on the conflict situation and how it is affecting your agriculture?

Any suggestions for how the situation might be improved?

Thank you and do you have questions for us?

4.2 Focus Group: Seed Mapping Tool

Purpose: To get an overview of seed channels and their importance for the three main crops from the most recent season.

1 Make a 'seed map' for the three principal crops. (If possible, include focus on different types of crops, e.g. the self- and the vegetatively-propagated crops mainly for home consumption, as well as the more commercial. BUT the choice depends on community priorities.)

2 For each crop, do a comparison between seed sources today, and seed sources at a time in the past that has some meaning. (e.g. 5 years ago. Or perhaps pre-conflict). Agree on the precise time period!

Use flipcharts to record for the community. (It is easiest to divide a single flipchart sheet in two parts: use the top half as the current seed source situation. Use the bottom half as the seed source situation at a given time in the past.)

3 Carefully facilitate the discussion and take good notes! (to complement the flipcharts)

For each crop

PART I Make a seed map for the most recent season

Map the seed sources for this most recent season. Draw the primary sources (as circles).

Discuss: What are the main sources for seed (and rank in importance)
1 = most important; 2 = second in importance, 3 = third in importance

PART II Map the seed sources as they were 5 years ago (or pre-conflict.) Specify year.

PART III Compare the most recent season sources with those five years ago (or pre-conflict)
- What have been the major changes in the last 5 years?
- Why have they occurred?
- Are they positive or negative changes?

PART IV Compare among the seed channels sources
- What are the advantages and disadvantages of using different sources?
- What is the quality of seed from different sources (including varieties
- Is seed always available from the difference sources
- What about the price/ of from different sources: comments
- Do farmers with more money use different sources from those with less money?

Sample maps

Example 1 Maize 2009, Zimbabwe (modified from original, as example)
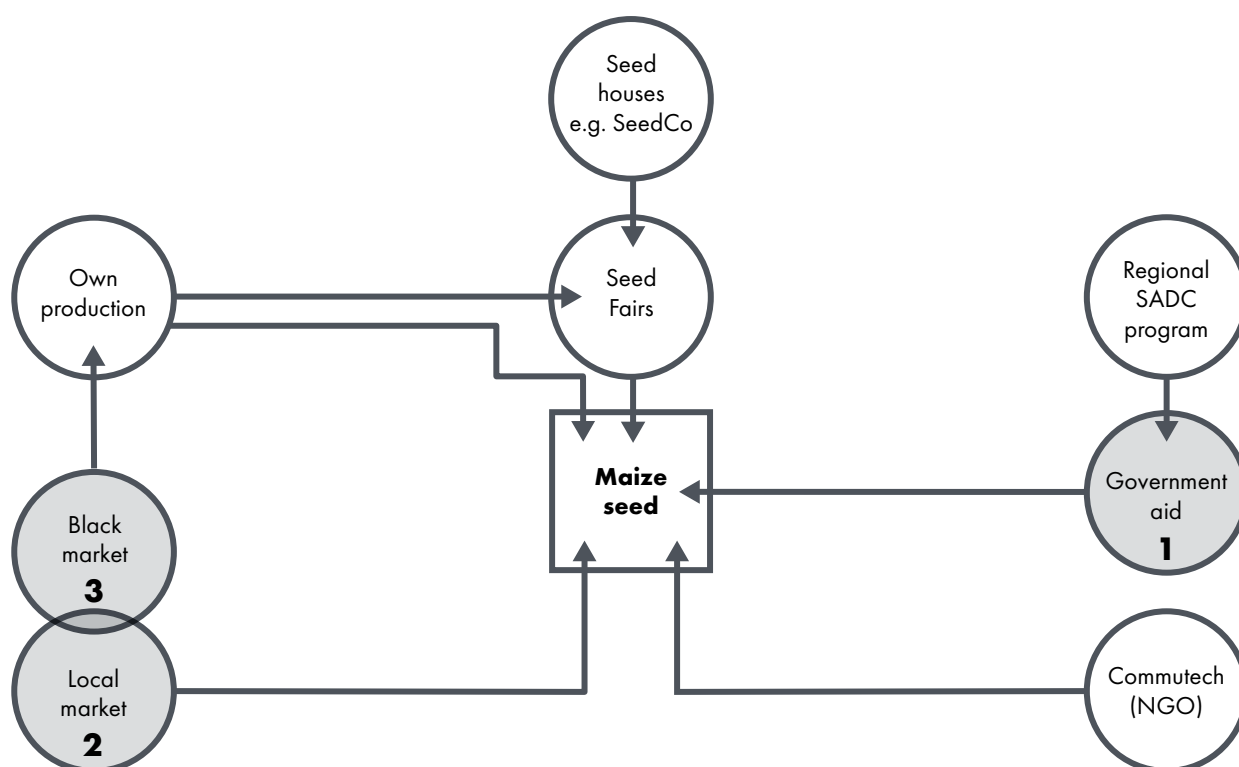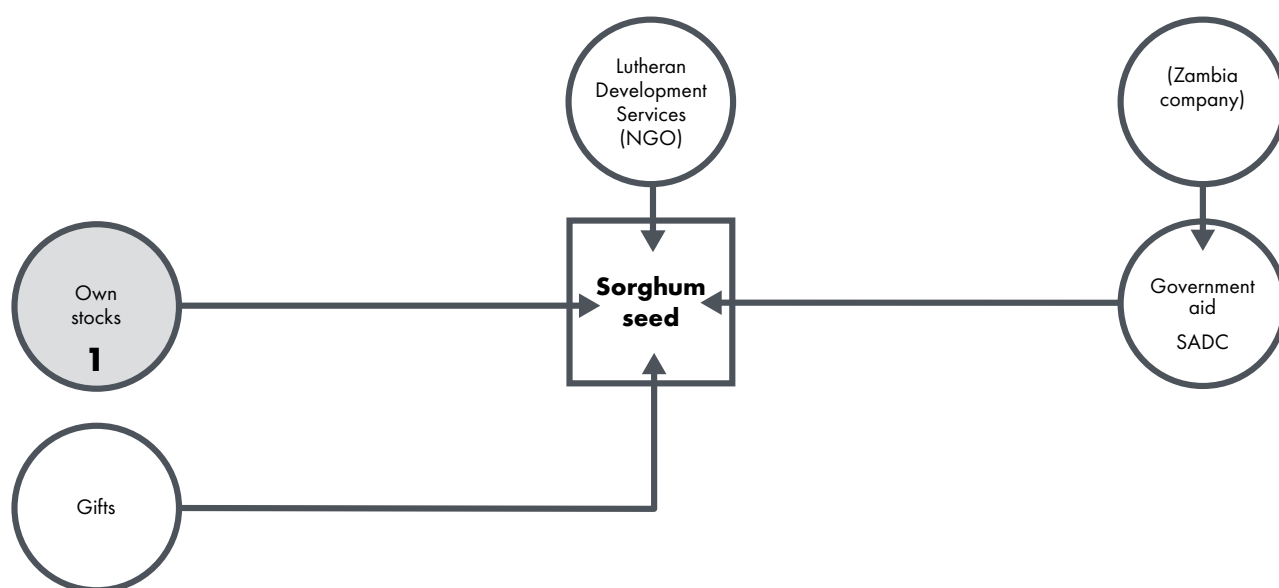

Seed Sources in 2009
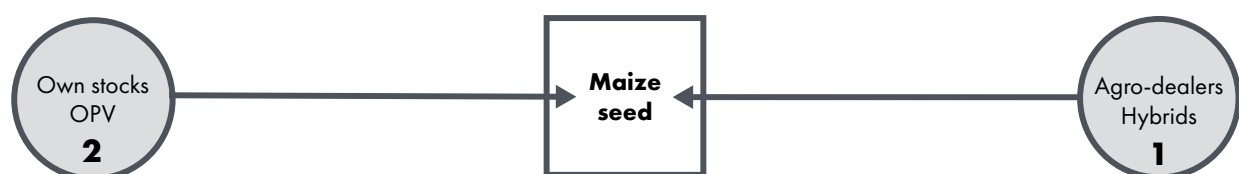

Seed Sources, 2004 (five years before)

NOTES

1 10 years ago, the Agro-dealer network functioned well. The great majority of maize used was hybrid and was purchased every season (may 90%). Open pollinated variety (OPV) use was small—but introduced by an international research organization. Farmers did not like the OPVs – and could buy fertilizer easily, needed for hybrids.

2 2009:
  A Agrodealer network collapsed. Zim money worth nothing.
  B Maize comes from government aid, from NGO aid, like seed fairs, from the local market and black market (even some hybrids).
  C On some occasions seed houses (e.g. SeedCo) have been invited to bring their seed at the seed fairs.
  D COMMUTECH also provided seed maize- free (KEP, ZM 521, ZM 421) at one time. On some occasions seed houses
  E Government assistance most important; other programs secondary

Example 2 Sorghum 2009, Zimbabwe (modified from original as example)

Seed Sources in 2009
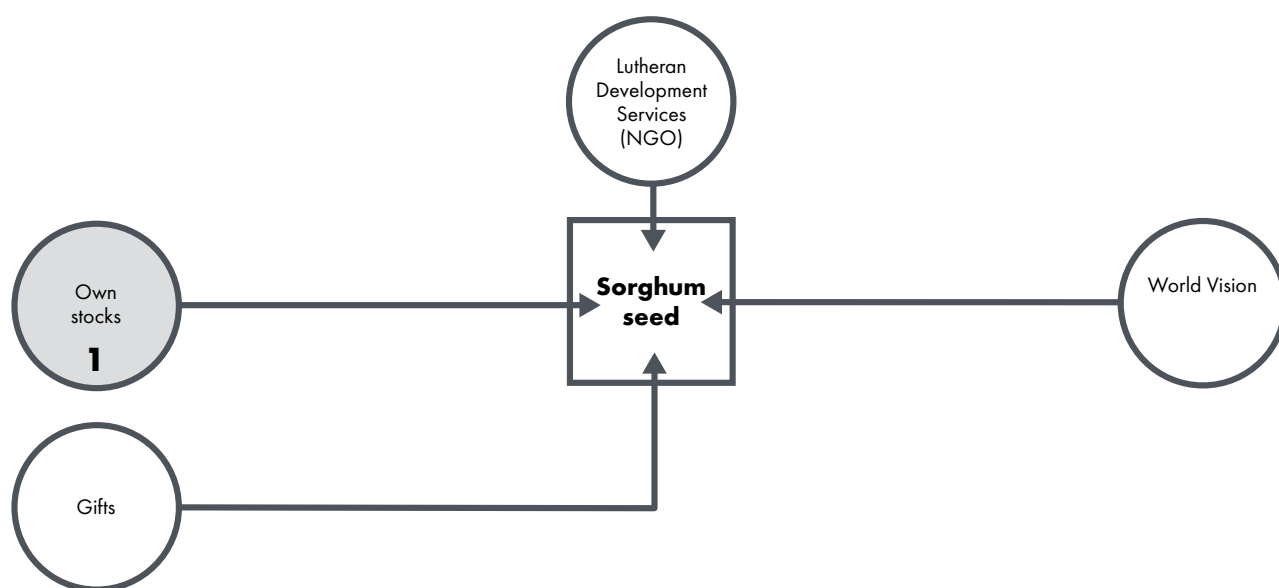
Seed Sources in 2004

NOTES

1 The main source now for sorghum seed is 'own stocks'. This was the same five years ago, there has not been much change. The great bulk of sorghum seed (over 90%) comes from 'own stocks'.

2 Also, neighbors and relatives, might give sorghum seed in small quantity, both now and before (5 years ago).

3 Recently the government also gave some seed aid –which came form Zambia – but it did not produce well (much did not even germinate)

4 The NGOs recently introduced a new variety called 'Sila' (introduced by the Lutheran Development Service)

5 World Vision also introduced a new variety 5 years ago (name not recalled), but it no longer exists in the system as people did not like it.

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