11 From context analysis to intervention design

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In Chapters 3 to 10, we have outlined how to make a thorough analysis of the context of a humanitarian crisis. Various contexts for analysis have been identified – such as the health, political and social context – and for each specific context guidelines have been given as how to investigate the nature and characteristics of this specific context. In addition, the radar graph has been introduced as a tool to compile and compare evidence collected for various context dimensions. The next question of importance to humanitarian organizations and aid workers is how to decide – given a certain humanitarian crisis context – if humanitarian aid is required and, if so, how to arrive at a proposal for a humanitarian aid project or program on the basis of the information collected in the context analysis. In other words, how to adopt an evidence-based approach to humanitarian programming? This question is addressed in the next chapters of this book.

A stepwise approach to evidence-based humanitarian programming

In this chapter, we will develop an evidence-based approach to programming. As elaborated previously, the context analysis gives information about the core humanitarian problems and vulnerabilities in the context, next to a clear overview of existing capacities in the crisis context. Once these vulnerabilities and capacities have been identified, it is possible to identify areas in which intervention is needed (for example in terms of food, shelter, water or psychological care), where capacities are low and where vulnerability is high. The next question is how to use this information to arrive at a programming decision.

We answer this question by proceeding with the step of Intervention Analysis. We do this in two intermediate steps in this chapter: first, we identify a set of *thinkable* interventions, which is then reduced by means of the method of theory-based *ex ante* evaluation to a set of *suitable* interventions that fits the humanitarian problems and context. In the chapter on stakeholder analysis (Chapter 12) a final step is outlined that helps to identify the most *feasible* intervention: an intervention that is not only suitable but also safe and effective, given a certain stakeholder field. We shortly introduce the steps to intervention

and stakeholder analysis below and then further elaborate intermediate steps 1 and 2 as part of the Intervention Analysis in the remainder of this chapter.

Step 1: identifying thinkable interventions

Given the identified area(s) of intervention after the context analysis, there is a body of knowledge in the sector available that outlines a set of thinkable interventions in the identified area of intervention, referring to all potential alternatives for action related to the domain of intervention. This body of knowledge can be based on own field experience, the expertise of sector/cluster experts, evaluations of previous aid interventions, lessons learned papers and other documents outlining options for interventions or information about the conditions for success for such interventions. For example, if food shortage is considered to be a core problem to be addressed in a particular humanitarian crisis, there is ample documentation (such as Maxwell *et al.* 2013a, 2013b) showing that this can be done in various ways, ranging from free food distributions, cash-based interventions (such as vouchers), seeds and tools programs or livestock support.

Step 2: identifying suitable interventions

The second step is related to the question of how to decide which of these thinkable options is appropriate to use in a particular humanitarian context, i.e. how to arrive at the most suitable intervention(s) in this particular context. In other words, given the characteristics and causes of the humanitarian problem at hand (i.e. here: food shortage) and the context in which this problem is taking place, what would be the best fitting intervention to improve the situation (i.e. achieving food security)? We recommend conducting this analysis first without considering the various stakeholders involved, like one's own aid organization or other stakeholders present in the setting. Put differently, this first analysis is based only on the identified needs and vulnerabilities. We recommend this for two reasons.

First of all, humanitarian aid is based on the principle of humanity, and it is thus first and foremost assumed to be based on needs. Hence, organizations should be willing to conduct such a needs-based analysis first in order to identify options most suitable to address the needs. Second, a stakeholder analysis can only be instrumental if it is clear what the suitable options for action are. If, for example, the mandate of the organization is the first point of departure in such an analysis, this might result in a supply-driven approach in which ready-made solutions are forced upon a reality, resulting in a risk of negative side effects. Instead of humanitarian problems that require suitable solutions, this can lead to solutions looking for 'suitable' problems (March 1994, Heyse 2007). In the end, aid organizations should be prepared to also consider the option not to intervene, because others are already on the ground covering the needs, or because the expertise is lacking to implement the most suitable option effectively.

The type of analysis that helps to generate the most suitable intervention(s) can be done with help of a tool that belongs to the category 'theory-based *ex ante*

evaluation' (Astbury and Leeuw 2010). *Ex ante* evaluation is a method to analyze the potential intended, unintended and adverse effects of projects, programs or policies *before* the intervention is actually done. This method is advantageous in that it may help aid organizations to identify potential pitfalls of their project prior to its implementation, thereby reducing costs and risks of side effects.

Step 3: identifying feasible interventions

Of course it is not realistic to assume that humanitarian aid can take place without considering the relevant stakeholders. After all, they can facilitate or obstruct the successful operation of humanitarian organizations (Collinson 2002, LeBillon 2000). Therefore, the third and final step in the analysis is to arrive at the most feasible intervention option, meaning that it is investigated how the stakeholder field – and thus the goals, interests and power of other actors in the domain of intervention – relate to the identified suitable interventions. In other words: given the set of identified suitable interventions and the characteristics of the stakeholder field, what option is most likely to be (most) acceptable and has least risk to be obstructed – and thus is feasible and safe. In order to arrive at this analysis, a *stakeholder analysis* is needed, which will be further elaborated in Chapter 12.

Taken together, the theory-based *ex ante* evaluation of potentially suitable interventions in combination with the stakeholder analysis, will help to generate an intervention option that is likely to help a specific stakeholder (here: a humanitarian organization) to realize her goal, i.e. the improved situation of people struck by a crisis. This is not to say that the method of theory-based *ex ante* evaluation is superior to a stakeholder analysis; they are both necessary in identifying a suitable *and* feasible project option. Only then are humanitarian projects most likely to result in intended effects.

We now first introduce the idea of theory-based *ex ante* evaluation, then explicate two concepts central to this approach – mechanisms and context – before we proceed to outline the practical steps humanitarian organizations can take to arrive at a set of suitable interventions based on this method.

The value of theory-based *ex ante* evaluation for humanitarian action

The tool we outline in this chapter is inspired by the literature on 'theory-based *ex ante* evaluation' (Weiss 1997, Coryn *et al.* 2011, Treasury Board of Canada 2012). *Ex ante* evaluation – as opposed to *ex post* evaluation – means that *prior* to a project's implementation, those who are responsible for proposing and planning projects or interventions, have made the effort to thoroughly reason through why and how the proposed activities will lead to an improved situation of the target groups and what the risks of unintended negative effects could be. It is thus a prospective evaluation method (see also US Government Accountability Office 1990) which resonates with the principle of *Do No Harm*, since it

contributes to assessing the quality of the proposed plan of activities and to identifying potential harmful effects of the planned activities.

Theory-based *ex ante* evaluation serves three main purposes in this book: first, to help outline in advance what specific processes humanitarian project activities are assumed to trigger (i.e. what is the explicit program theory); second, to assess if and how that will generate the intended effects; third, to evaluate the risk of unintended negative effects. Such an exercise can be focused on short-term outcomes as well as longer-term effects.

The approach is labeled 'theory-based' because the purpose of such an *ex ante* evaluation is to unravel the often implicit assumptions (i.e. 'theories') of stakeholders that propose certain projects or program activities. Policy-makers and project planners are often not aware of their assumptions of how they expect proposed interventions to trigger certain processes (also referred to as mechanisms) so that positive change is achieved. These assumptions behind proposals for project activities can be seen as hypotheses or theories of how the world works in the view of practitioners, therefore the label 'theory-based'. If these assumptions remain implicit, one cannot detect potential inconsistencies or gaps in these assumptions. Since incomplete, inconsistent or incorrect assumptions can lead to unintended side effects of proposed humanitarian activities, it is of utmost importance to outline and evaluate them explicitly prior to an intervention's start.

The assumptions underlying proposed interventions are often referred to as a *program theory* (Astbury and Leeuw 2010, Leeuw 2003, Hoogerwerf 1990). Other terms often mentioned in relation to this theory-based evaluation approach are 'theory of change', 'intervention theory' or 'implementation theory' (Connell *et al.* 1995, Weiss 1997). The many different meanings and definitions of these terms (see for overviews Vogel 2012, Stein and Valters 2012, Blamey and Mackenzie 2007) converge on the idea that policy-makers and project planners need to make their assumptions explicit as to how a specific intervention is supposed to achieve its objectives.

It is not only important to make explicit the assumptions behind a certain intervention proposal, it is also and especially necessary to then think through the quality and validity of these assumptions: why would the assumed processes be effective? While doing so, it is important to be aware of the fact that the context in which interventions take place influences how interventions will work out. To illustrate: it is known that free food distributions are less suitable in crisis contexts where markets are still functioning (Maxwell *et al.* 2008), because the freely distributed food might be sold in the market, thereby leading to decreased prices and market distortion. Hence, free food distributions are more suitable in some crisis contexts than in others.

This idea that some interventions work better in some contexts than in others, because context influences the way the assumed program theories will work, is related to the Context-Mechanism-Outcomes (CMO) approach, which is part of the so-called Realist Evaluation tradition (Pawson and Tilly 2004, see Figure 11.1). The CMO approach helps to answer the question: what interventions (mechanisms) work well (outcomes) for whom, and in what circumstances (context)?
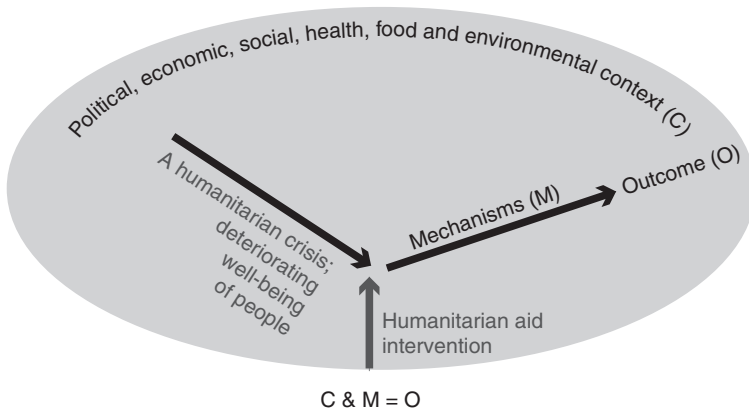
Figure 11.1 The Context-Mechanism-Outcome approach in humanitarian crises.

Translated to a humanitarian context, the question is: what specific aid activities (e.g. free food distributions or cash transfer) are likely to generate intended outcomes (e.g. increased food security) for beneficiaries, given the political, economic, social, health, food and environmental situation in a humanitarian crisis?

According to the CMO approach, an intervention is likely to fail or to generate unintended side effects if (1) the context conditions obstruct the assumed or intended program theory from working or even distort the program theory's working; and/or (2) the intervention itself does not trigger the assumed processes and mechanisms assumed by the program theory. In this way, the CMO approach can be helpful in outlining a method to identify prior to a project's start those context conditions that may hamper or facilitate particular humanitarian aid activities (based on existing knowledge and insights) and to find out why and how exactly certain program theories and activities might (not) work in particular contexts. Hence, this approach facilitates that more informed programming decisions can be made.

We will now proceed with elaborating the CMO approach by further clarifying how to think of interventions as triggering specific mechanisms that generate certain effects, and what the impact of context conditions can be. We will illustrate the general principles of this method with insights on emergency food interventions and then proceed with outlining specific steps as how to achieve a theory-based *ex ante* evaluation of a proposed humanitarian aid project.

Humanitarian aid as mechanisms-generating intervention processes

The literature on theory-based evaluation argues that any type of intervention aims at triggering certain mechanisms towards change or improvement of a

situation or group. This also holds for humanitarian aid, which aims at positively intervening in the situation of human beings, as a way to improve their food, health and economic situation, and sometimes also their social and political situation. This can only be achieved if the intervention triggers certain mechanisms that lead to an improved situation. In this section we further elaborate what mechanisms are, why they are relevant to identify in humanitarian interventions and how they can be identified.

Mechanisms are reflected in the 'assumptions about how and why program activities and resources will bring about change for the better' (Astbury and Leeuw 2010: 364). Mechanisms are those elements that help explain *why* and *how* an intervention generates intended effects, as will be later illustrated in this chapter. Theory-based *ex ante* evaluation of proposed projects thus has an explicit explanatory dimension: it should provide arguments and evidence of how and why the program or project activities are expected to lead to a change in the target groups' situation or behavior.

Theory-based evaluation proponents argue that interventions in the social domain – such as policy programs, social care interventions or humanitarian aid projects – are often measured in terms of outcomes or effects only, thereby treating the process from intervention to outcome as a black box (Astbury and De Leeuw 2010). This prevents the contribution of the intervention to the outcome from being separated from other factors that may also contribute to certain outcomes (such as sheer coincidence).

There are currently methods in place that facilitate outlining the causal chain between interventions and activities and the outcomes they aim to generate (i.e. logframes). However, these methods often insufficiently explicate the assumed causal relationships between an intervention, the response that the intervention generates and the outcome that is then achieved (Gasper 2000). The logical framework, for example, asks for a systematic listing of project objectives, a set of indicators that would make these objectives measurable, and a set of assumptions that ideally would reflect the project theory and the conditions in which this project theory is likely to be successful. These assumptions are however often not described in detail but presented as general risks that could hamper the project, such as sudden fighting, so that food convoys are blocked. They often do not really reflect an intricate project theory of how the aid activity is going to contribute to an improved situation of beneficiaries and which context conditions are expected to hamper or facilitate the project's working. Consequently, the results of such methods are often descriptive rather than explanatory, and they provide little insight into the mechanisms triggered by the intervention (Coryn *et al.* 2011).

One explanation for this lack of explanatory depth is that the concept of mechanisms and program theory is difficult to grasp and work with for practitioners (Weiss 1997, Coryn *et al.* 2011). However, some work has been done to help practitioners with grasping the concept of mechanisms in particular sectors. An example of this is the work by Shapiro (2006) who outlined theories of change related especially to conflict interventions. She distinguishes between interventions aiming at generating individual level change, at changes in groups

or relationships and at change at the macro level (i.e. structures, systems and institutions). Also humanitarian aid can be aimed at generating change at these levels, with the individual and group level being the dominant focus.

For each level of change, Shapiro outlines examples of mechanisms that can be triggered to generate change by means of interventions. For example, she elaborates individual-level change mechanisms in terms of cognitive, affective (emotional) and behavioral change. Cognitive change can be triggered when people learn new things, grow awareness, or are able to reframe information. Affective change can be triggered by emotional catharsis, whereas behavioral change can be triggered through improving certain skills. At the group level, change in relationships can be established by altering or enlarging people's networks, whereas change in macro structures can be related to judicial and legislative reform but also to altering economic and social structures.

The above insights can also be applied to humanitarian aid: part of humanitarian work is aimed at the direct physical improvement of people by giving them health care, water or food. Another part of aid is aimed at changing the structural circumstances people live in, for example, by providing them with money or resources to improve their living conditions, such as cash, cooking material and shelter. A third part of humanitarian aid activities is aimed at achieving individual or group level change, for example by means of training and information sharing, as is often done in water, sanitation and hygiene projects or livelihoods interventions.

Example of mechanisms triggered in emergency food interventions

We will now illustrate what we mean with the term 'mechanism' in a humanitarian crisis context by focusing on the domain of emergency food interventions. What would be, for example, the mechanisms generated by free food distributions and by cash transfers, both popular food aid interventions? The mechanism for free food distributions is quite straightforward: by giving people in-kind food for free, the assumption is that they can immediately consume this food, so they get a higher calorie intake, which directly addresses malnutrition. It is thus a biological/physical mechanism that is triggered. In the case of cash transfers, a different mechanism is triggered: first people get money so their resource base expands (their structural circumstances improve), and it is assumed that an expanded resource base will help people to address their malnutrition, for example by going to the market to buy food, seeds or cattle.

By making these assumed mechanisms explicit, one probably is immediately inclined to add critical remarks because these assumptions might not be correct, consistent or complete. For example, why would the simple act of giving people money lead them to buy food? This assumes first of all that lack of money is the problem of their malnutrition and not something else, such as unsafe conditions to go the market or lack of supply on the market. What is the evidence for this assumption? This is something that can be investigated. Second, the assumption seems to be that one is so hungry that one would spend the money on food and

not on something else, such as paying off debts, medicine or school fees. The same goes for the assumed mechanisms triggered by free food distributions. Such an intervention assumes, for example, that one is so hungry that people will eat what is given to them and will not use it for other purposes, such as selling the food on the market. There are thus quite a number of assumptions related to the likelihood of success of cash transfers and free food distributions.

Each proposal for a humanitarian activity is thus grounded in a set of assumptions of how the activities will generate the intended effect. If one of those assumptions does not hold (for example, money is not the issue but cash transfers are given), the activity will most probably not generate the intended effects or even have negative side effects. It is thus crucial to make these assumptions explicit and to relate them to the context in which the activity is planned to take place, in order to analyze whether the proposed activities are likely to work as assumed. This exercise to unravel the mechanisms of proposed humanitarian aid activities can be started by asking the question: 'why and how will project/program activity Y generate intended outcome X?' The next step is then to critically assess whether this question is answered completely, consistently and/or correctly. We will later in this chapter specify the steps for doing this.

Humanitarian aid as context dependent processes

Being aware of the different mechanisms that certain interventions are assumed to trigger, is useful to think through in what situation to opt for what intervention. It is here where knowledge of the context of the humanitarian crisis – as suggested in Chapters 3 to 10 – is crucial. The context part of the thought experiment relates to the question for whom the intervention might work and in what specific circumstances (Pawson and Tilly 2004). In the case of humanitarian interventions, we propose to answer this question with the help of information about the social, economic, political, food, health and environmental context.

To return to our example, whether either free food distribution or cash transfer is a suitable intervention in case of malnutrition – and thus will trigger the mechanisms that are assumed to operate – strongly depends on the context in which one aims to intervene. Based on lessons learnt from previous humanitarian experience (see, for example, Harvey and Bailey 2011, Maxwell *et al.* 2008), we know that cash transfers as means to address malnutrition are most likely to be successful if they are implemented in situations where, amongst others, there is an operational banking system, and markets are accessible and functioning properly in terms of sufficient supply and choice. If cash is transferred and markets are inaccessible, for example due to violence, then it is likely that the cash cannot be used and people remain malnourished. If markets lack supply, the increased demand in markets due to the fact that people have more money to spend, might create a risk of rising prices and scarcity so that people might not be able to buy sufficient foods to improve their food situation. Hence, the economic context in terms of market characteristics is of utmost importance in deciding on a specific set of activities aimed at improving food security.

Free food distributions are arguably more likely to address malnutrition successfully in situations of inaccessible or badly operating markets, and in case of acute malnutrition (Maxwell *et al.* 2008). Nevertheless, other factors related to the context of the intervention need to be taken into account. First, the type of food should be carefully decided on because it otherwise might not be eaten or will be sold. This requires knowledge of local diets and staples. Second, the quantity of food should be carefully decided on, taking into account the norms and customs of food distribution practices in the household. For example, sometimes food is not equally distributed in the household, so that the family members lowest in the hierarchy might not receive the quantity of food individually needed to reduce their malnutrition (Debevec 2011). Hence, distributing food on the basis of a standard for minimum calorie intake per person might not result in improved nutrition of all household members. The above example shows that detailed knowledge of the economic context (functioning of markets), health context (type of malnutrition), food context (availability of and preferences for food), political context (safety issues) and social context (family norms) are crucial to determine what type of activity to employ to address malnutrition.

Such detailed knowledge of the context is all the more important since humanitarian crises can be typified as combining elements of both complicated and complex intervention contexts (Roger 2008). Complicated intervention contexts are characterized by multiple components and a plurality of stakeholders involved, creating coordination challenges. In addition, multiple mechanisms might be simultaneously necessary to trigger processes of change. For example, in case of cash transfer interventions, training might also be required. Moreover, across contexts different combinations of mechanisms might be essential to achieve success.

Complex intervention contexts are characterized by interconnected feedback and learning processes, with reinforcing or obstructing loops that can lead to disproportionate effects or the lack of any effects. The effect or outcome of an intervention is thus very much interdependent on these interactive feedback and learning processes at work, so that effects or outcomes emerge out of these complex dynamics. In these contexts, interventions will never work as straightforwardly as it may seem from the onset. Even if an intervention worked well in one context, this is not to say it can be expected to be equally successful in other contexts. Cartwright (2012) describes a striking example of how similar interventions impact differently in different contexts. She discusses World Bank nutritional interventions in Bangladesh, Ethiopia and Uganda based on a report by Save the Children (2003). The Bangladeshi project was modeled after a project in the Indian Tamil Nadu state, but whereas the Indian project was successful, the Bangladeshi project was not. The project consisted of a combination of providing supplemental feeding to children and increasing the mothers' knowledge about food. One of the factors that explained the different success rates had to do with different customs of how food was distributed in the household. In Bangladesh supplementary food for the child was often passed on to another

household member, preventing the child from having sufficient calorie intake. Another explanation was in the assumption that increasing the mothers' knowledge would be beneficial for the child's nutritional status, but in the Bangladeshi context mothers do not have the authority to decide about their children, but the men and the mothers in law do (Cartwright 2012).

Hence, especially in humanitarian crises a careful and conscious identification of mechanisms and context conditions (i.e. CMO configurations) is required. Of course such an *ex ante* evaluation of proposed interventions will not guarantee success in interventions. But it will help to at least identify incomplete or incorrect program theory, and to signal risks for unintended side effects of interventions.

Context-Mechanism-Outcomes (CMO) thinking for humanitarian aid

The outcome of a humanitarian project (i.e. improvement of the target group's situation) is the sum of the mechanisms triggered by the intervention, given a specific context. The next sections specify the steps to arrive at suitable intervention options for the humanitarian sector.

Step 1: from evidence to priorities: identifying areas for intervention

The product of the Comprehensive Context Analysis is a radar graph summarizing the most important information on vulnerabilities and capacities for a particular humanitarian crisis. The radar graph allows the identification of domains (e.g. food, health) in which interventions are most needed (usually domains where vulnerabilities and needs are high and capabilities are low). The domains of intervention can be identified in terms of the type of context (social, political, food/health/water, environment, economics) but also in terms of UN clusters: food, nutrition, shelter, WASH, education, etc. Based on the Comprehensive Context Analysis one or more areas for intervention can be prioritized, which in our particular case refers to food.

Step 2: from priorities to programming ideas: generating thinkable intervention options

After having prioritized one or more areas of intervention, the aim is to work towards an intervention plan, for example in terms of a humanitarian aid project proposal. How do we arrive at such a plan in light of the proposed method of *ex ante* theory-based evaluation? A first step is to generate a list of thinkable intervention options. There is ample experience and expertise in the humanitarian sector that humanitarian aid staff can use to derive such a list from. An important element in humanitarian programming is thus to ensure that one generates a set of thinkable alternatives for action for a certain intervention domain. These alternatives can be generated by means of sector and cluster experts one can turn to, by using own field experience and by studying documents that outline lessons

learnt from previous experience such as found in evaluation reports, good practice reviews, best practice papers or case studies of success and failure. There are many sources one can turn to, such as ALNAP, HPN/ODI, information provided by the UN clusters and UN agencies, and academic insights.

With regards to our example of food interventions, there are quite a number of publications, documents and insights one can draw up. Box 11.1 outlines a few examples.

Box 11.1 Information sources about emergency food interventions

Examples

Action Contre la Faim (ACF) International, *Introduction to Food Security Intervention Principles.*
ALNAP (2011) *Humanitarian Action in Drought Related Emergencies*, Lessons Learned Paper.
Levine, S. and Chastre, C. (2004) *Missing the Point: An Analysis of Food Security Interventions in the Great Lakes*, Humanitarian Practice Network Paper No. 47.
Maxwell, D., Sadler, K., Sim, A., Mutonyi, M., Egan, R. and Webster, M. (2008) *Emergency Food Security Interventions*, Humanitarian Practice Network Good Practice Review No. 10.
Maxwell, D. Stobaugh, H., Parker, J. and McGlinchy, M. (2013) *Response Analysis and Response Choice in Food Security Crises: A Roadmap*, HPN Network Paper No. 73, London: Overseas Development Institute.
Save the Children (2003) *Thin in the Ground: Questioning the Evidence behind the World Bank-funded Community Nutrition Projects in Bangladesh, Ethiopia and Uganda*, London: Save the Children UK.

Based on these multiple information sources one can extract a set of thinkable interventions, such as outlined in the middle column of Figure 11.2. The same can be done for other intervention domains, such as shelter, nutrition or WASH.

Depending on time constraints, the duration of this step can be flexible, but the main point is that a number of alternatives for action are generated based on existing experience and expertise in the field. By purposefully pursuing the generation of alternative thinkable actions, this increases the likelihood that alternatives are proposed that might not have been thought of at first instance. It thus facilitates that one looks beyond the known or often-used options and thereby helps to overcome tunnel vision.

Step 3: generating suitable intervention options: CMO thinking

Based on the set of generated thinkable interventions, a limited number of suitable interventions can be selected, i.e. interventions that match the specific problem and context at hand. For each of them, it is necessary to specify the
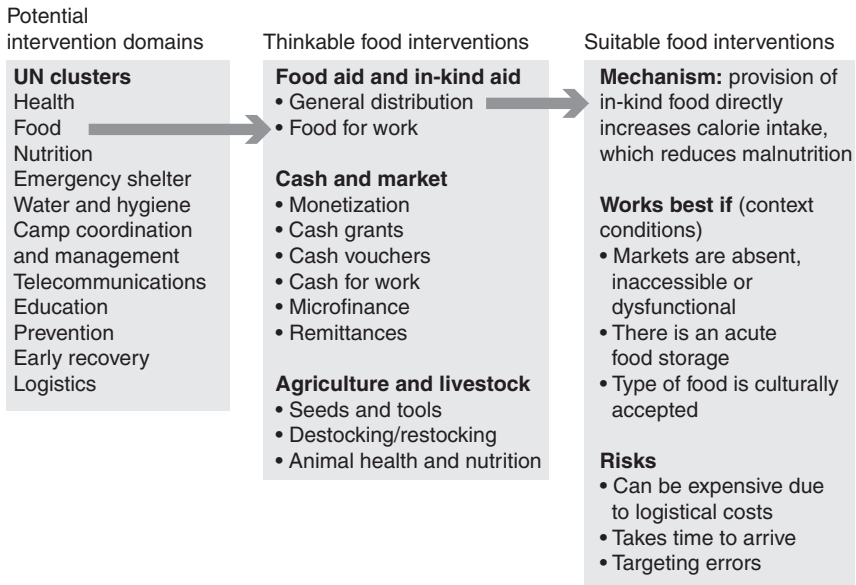
Potential intervention domains	Thinkable food interventions	Suitable food interventions
UN clusters Health Food Nutrition Emergency shelter Water and hygiene Camp coordination and management Telecommunications Education Prevention Early recovery Logistics	**Food aid and in-kind aid** • General distribution • Food for work **Cash and market** • Monetization • Cash grants • Cash vouchers • Cash for work • Microfinance • Remittances **Agriculture and livestock** • Seeds and tools • Destocking/restocking • Animal health and nutrition	**Mechanism:** provision of in-kind food directly increases calorie intake, which reduces malnutrition **Works best if** (context conditions) • Markets are absent, inaccessible or dysfunctional • There is an acute food storage • Type of food is culturally accepted **Risks** • Can be expensive due to logistical costs • Takes time to arrive • Targeting errors

Figure 11.2 From prioritized intervention domains to thinkable and suitable food security interventions (sources: based on Maxwell *et al*. 2008, 2013a, 2013b and ACF).

mechanisms and the context conditions under which these interventions are likely to fail or to succeed.

Identifying mechanisms: constructing program theories

Mechanisms can be explicated by constructing a program theory, for example by formulating a set of IF–THEN statements. Questions that could be asked are:

- What mechanism(s) is/are a specific activity in an intervention assumed to trigger? One can use a structure of if–then statements to answer the question. For example, IF activity X (free food aid) is employed, THEN this will lead to outcome/effect Y (increased malnutrition) BECAUSE the calorie intake of individuals will go up immediately.
- Does each activity trigger one or more mechanisms? If so, do these simultaneous mechanisms contribute to the intended outcome or might they obstruct each other?
- To what extent do activities interact with each other? Do they 'flank' (i.e. strengthen) each other or do they obstruct one another in relation to the intended outcomes/effects?

Let us take emergency seed aid interventions as an example of a potentially suitable intervention method in a given humanitarian crisis. What would a program

theory for an emergency seed intervention look like? Using IF–THEN statements, one could come to the following reasoning: IF one distributes seeds to targeted households, this will THEN give households the means to plant (more) crops (M1 in Figure 11.3), which is THEN expected to lead to more crops (M2) that can be harvested. IF the crops can be successfully harvested (M3), the harvest can THEN either be consumed immediately (M4a) or sold on a market (M4b), or a mix of both. IF one eats it directly, THEN the calorie intake of households will directly improve, so that the nutritional status of the household members will improve. IF the harvest is sold on the market, THEN this gives the household the opportunity to earn (more) income with which they can buy foods on the market (M5). Figure 11.3 summarizes the above IF–THEN statements in terms of mechanisms (M1–5).

Questions that come to mind on the basis of the above are:

- What is the underlying cause of nutritional problems? Is this related to lack of seeds or to other issues such as food availability, food access or, for example, health-related problems? In other words: to what extent will this intervention trigger mechanisms that address the causes of the nutritional problems?
- Why and how should increased availability of seeds result in increased yields?
- How does increased availability of food (harvest) lead to sufficiently increased calorie intake of household members to improve their nutritional status?

Ideas about which mechanisms to look at can be generated on the basis of documents, prior research, asking experts and stakeholders, and by logical reasoning (Weiss 1997). Criteria that can be used to decide to include or exclude a
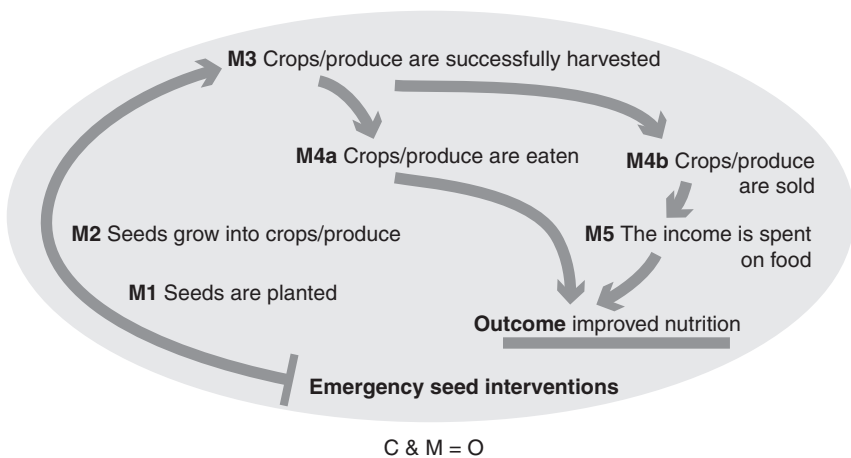

Figure 11.3 Crucial mechanisms behind successful emergency seed aid interventions.

mechanism in the analysis are: the assumptions of the program stakeholders, the plausibility of the mechanisms (how likely is it that these mechanisms will occur) and the centrality of the mechanisms to the program (Weiss 2002). Furthermore, it is important to critically reflect on the completeness of the assumed mechanisms, the consistency and coherency between mechanisms and the correctness of them.

Identifying context conditions

Once the assumed mechanisms have been outlined and reflected on, the next step is to connect these assumed mechanisms to the context characteristics to see how they relate to each other. For this step in the analysis, one can utilize the typology of contexts used in Part I. In the case of seeds interventions, the following context conditions are of importance for these interventions to be successful (based on Dijkhorst 2011, Sperling and McGuire 2010, Remington *et al.* 2002). We illustrate these context conditions in Figure 11.4.

- Food and health context. Seed interventions can only be implemented in not so acute malnutrition situations, since it takes time for seeds to grow and be harvested. For this intervention to work, target groups should still have other ways to uphold their food security situation, otherwise the increased food availability will come too late or the seeds will not be planted but eaten. Timing is thus the issue for a seeds intervention to be successful (C3 in Figure 11.4).
- Environmental context. These interventions will only work if growing crops at home is possible, i.e. there is space and there are favorable climate conditions (enough rain, fertile soil, adapted to the seasonal cycles, etc.). It is also crucial
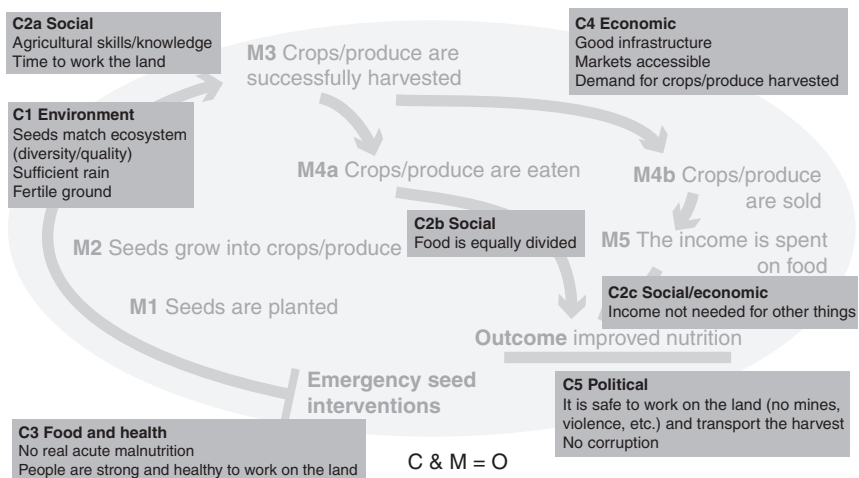

Figure 11.4 Required context conditions for successful emergency seed aid interventions.

that the types of seeds distributed match the environmental context in order to prevent the spread of diseases. Hence, distributing seeds is not enough; if they are of the wrong kind, the climate is not favorable, etc. there is a risk that the harvest will fail (C1 in Figure 11.4). A failing harvest will mean a failed increase in available food and the assumed program theory will not work.

- Social context. Household members need experience and expertise to grow crops themselves, and they should have time to do so (C2a). If knowledge, experience and skill are lacking there is a risk that mistakes are made and the planted seeds will not develop into a rich harvest. A failed harvest will not allow households to address their malnutrition. After the food is harvested and consumed, malnutrition for all in the family will only decrease if food is shared equally in the household (C2b). If one would plan to sell the harvest, the income should not be needed for other purposes such as paying off debts, because otherwise the money will not be spent on food (C2c)
- Health context (C3). Those who have time and skill to work on the land should also be strong and healthy enough to be able to work on the land.
- Economic context (C4). The distributed seeds should match the demand for food on markets. For example, distributing one type of seeds to a large group could promote a mono-culture which might in certain circumstances create increased competition on markets and increased vulnerability to shocks at the household level (due to crop illness, drought, etc.) due to a lack of diversification of produce. In case the intervention aims at stimulating farmers to sell their produce, there should be functioning markets nearby that have a demand for the produce harvested as well as a good infrastructure to transport the products. If these conditions are not fulfilled, farmers will not be able to either sell their produce on the market or get a good price for it, which will make the program theory less effective.
- Political context (C5). These interventions can only work if it is safe to work on the land, i.e. no risks of attacks, violence or landmines. Corruption could also distort the program theory to work as expected.

Towards Context-Mechanism-Outcome (CMO) configurations

Once the mechanisms have been explicated and the context conditions for successful intervention have been defined, and these have been compiled in graphs such as Figure 11.4, we have created a so-called CMO configuration. This configuration summarizes the key mechanisms underlying a successful intervention, based on what we know from existing publications and expertise, and the necessary context requirements for the intervention to work.

The CMO configuration can be compared to the Comprehensive Context Analysis of the particular humanitarian crisis at hand, so that one can establish whether the assumed mechanisms are likely to be triggered in this particular context. The key question is then whether the context conditions required for a successful intervention are present in the particular crisis.

In our example, it could be that the identified health and environment context conditions are present, i.e. people are healthy enough to work, the seeds match the ecosystem, the land is fertile enough for the seeds to grow and there is sufficient rain. In Figure 11.5 this is represented by a tick sign in C3 and C1. However, in this fictitious case, the social conditions are not met, because the context analysis showed that people miss skills and knowledge to work the land effectively (C2a), food is not equally shared in the household (C2b) and many people have debts (C2c), so they are likely to spend their new income on paying off debts instead on buying food. This analysis points out that there are serious risks to the seeds program, which is symbolized with the crosses in Figure 11.5. The program aims at decreased malnutrition, but this might be hampered by the above-mentioned social factors. One could thus already identify in advance groups and individuals for whom the intervention might not work that well: those who lack the knowledge to effectively work on the land, those household members who will not receive sufficient food due to inequality in food sharing practices and those households that need to spend the newly generated income on other matters than food. In addition, not all political and economic factors are met, so this asks for an additional analysis of which elements in these contexts are obstructing the program's aims.

Based on this analysis as visualized in Figure 11.5, one can start to consider whether some of the context conditions can be influenced by means of additional aid activities. For example, if people lack agricultural skills and knowledge, the intervention might need to be extended with a training element. However, not all context conditions can be easily influenced. For example, it will be difficult to change a hierarchy through which food is distributed in the household. Complementing the seed aid intervention with supplementary feeding for the weakest in
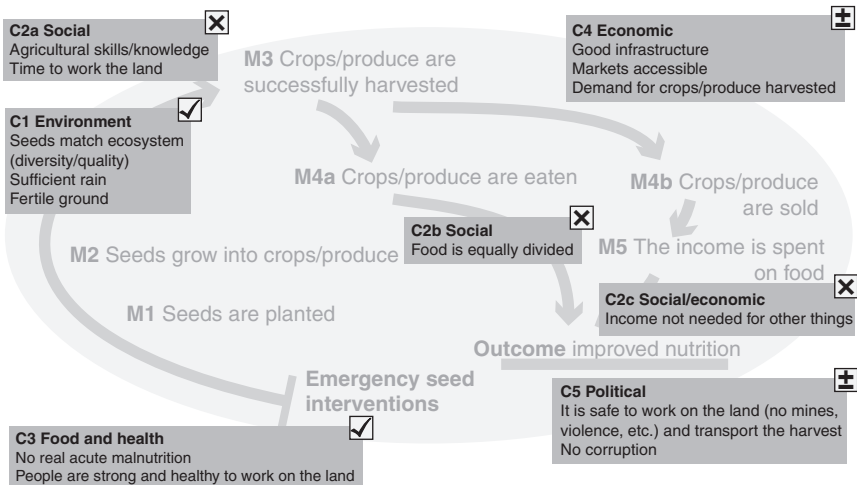

Figure 11.5 Fictitious analysis of a CMO configuration applied to a particular crisis context.

the household may be one way to address this problem. Moreover, sometimes the conclusion can even be that the particular intervention is not suitable in the current context at hand, for example if the land is not safe to work on because of landmines.

Now all steps have been taken in the Intervention Analysis, based on the method of *ex ante* theory-based evaluation, a quite intricate picture is available about the potential success of the planned intervention. The main activity in the project is the seeds distribution, and so far one could conclude that this distribution might make sense for some groups in this fictitious case. However, for others, one can already conclude that the distribution entails risks that can be partly addressed by adding to the main project activity a training program for those who lack agricultural knowledge and skills, and maybe a supplementary feeding program for those who receive least food due to unequal food sharing practices. Nevertheless, more insight in the political and economic context is needed to make sure that there are no barriers in these contexts that prevent people from, for example, successfully selling their produce on the markets or from working on the land due to safety problems.

Conclusion

This chapter aimed at outlining a method to evaluate in advance whether proposed humanitarian interventions can be assumed to generate the intended effects. The framework of theory-based *ex ante* evaluation was used to outline how to do this. Two steps were proposed: (1) to generate a set of thinkable interventions, and (2) to generate suitable intervention options by means of (a) reconstructing a proposed intervention's program theory and mechanisms and (b) to connect these assumed mechanisms to context conditions for success. The result of this thorough experiment is a Context-Mechanism-Outcome configuration that can be compared to the outcomes of the Comprehensive Context Analysis. Connecting the intervention plans to the context analysis is crucial for three reasons. First, it helps in determining whether the required context conditions are present and the proposed intervention is thus likely to generate the intended effects. Second, it helps to discover whether adjustments or complementary activities are needed because certain context conditions are not met (if these are conditions that can be influenced by aid activities). Third, it might even lead to the decision that the proposed intervention does not suit the particular context, or that one cannot influence crucial barriers in the context, and thus one would not initiate this intervention.

However, before the definitive decision can be taken that a proposed intervention should be implemented, one not only needs to know whether the intervention is *suitable* but also if the intervention is *feasible*, i.e. whether the intervention will be successful given the involved stakeholders. This is the topic of the next chapter.