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# Nutrition and Livelihoods In Situations of Conflict and other Crises; Reducing Vulnerability And Risk

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# Abstract

Livelihood approaches are being applied in complex emergencies to complement the more traditional modes of humanitarian response. In protecting lives and human dignity (the humanitarian imperative) agencies seek to address not only the immediate life-threatening nature of complex emergencies, but also attempt to protect and support people's livelihoods, in part because the resilience of livelihoods are a major determinant of nutrition in the longer-term.

In the context of complex emergencies, an analysis of livelihoods that incorporates nutritional concerns, requires an understanding of vulnerability and risk. This analysis includes an analysis of the role of war and conflict in undermining livelihoods, particularly where this is an objective of conflict itself, and further how livelihood erosion affects the causes of malnutrition.

This paper describes three types of livelihood interventions aimed at supporting and protecting pastoralist systems of production. This generates a preliminary set of essential principles underlying a livelihoods approach in emergency contexts. These relate to: assessment and analyses; prioritising and combining response strategies; and combining appropriate technical skills, including public nutrition, together with local knowledge in implementing programmes. The paper concludes with an agenda for learning and applied research with particular emphasis on nutrition livelihoods linkages.


# Introduction

This paper is concerned with exploring alternative approaches for protecting the lives and dignity of people in emergencies, which may be loosely grouped under the heading of 'livelihoods approaches' as related to concerns in nutrition and household food security. The work of humanitarian organizations over the past two decades has highlighted the continuing importance of nutrition in emergency needs assessment and in implementing traditional forms of humanitarian response (Mason and Taylor, 2002)[1]. Nutrition is a critical aspect of the life-threatening risks faced by emergency affected populations, serving as a lynchpin among food needs, health care concerns and physiological vulnerability. Nutrition programmes therefore remain central to any adequate and effective humanitarian response. That said, this paper argues that nutrition is also an essential part of the evolving analytical toolbox that helps in understanding the impact of emergencies on livelihoods and the effectiveness of livelihood approaches in emergency response.

[1] Typical direct nutrition interventions include the distribution of free food assistance, supplementary and therapeutic feeding programmes and vitamin A supplementation programmes. Within these programmes, attention will be directed at specific nutritionally vulnerable groups, including for example, pregnant and lactating women, the elderly, infants and young children(Appleton et al. 2000).

To investigate and better understand the linkages between livelihoods and nutrition in crises requires stepping beyond disciplinary boundaries, and appreciating the historical and cultural roots of western discourse on development, relief and the role of nutrition in the alleviation of poverty and the reduction of vulnerability. By being prepared to consider cross-sectoral issues there is an opportunity to learn lessons that have a relevance extending beyond individual modes of relief or development programming[2].

This paper seeks to clarify some differences between livelihoods in the context of conflict and other crises, and livelihoods in the context of sustainable development. In order to understand some of these fundamental differences it is necessary to consider the wider context of humanitarian intervention, which is briefly reviewed in the next section.

The second part of the paper focuses on three case studies of livelihoods approaches in pastoralist systems, which illustrates the critical linkages with concerns in nutrition. It concludes with a discussion of the essential principals of a livelihoods approach, followed by an agenda for learning and further research.

## Humanitarianism – the old and the new

Previous to the Cold War it was the exclusive mission of the International Committee of the Red Cross to protect the lives and dignity of victims of war and internal conflict and to provide them with assistance, as regulated by international humanitarian law. After the Cold War, international NGOs and UN agencies became increasingly involved in responding to all sides of inter-state conflict[3]. This period also saw a shift in the nature of conflict itself, prompting the coining of the term 'complex political emergency.

The term complex political emergency has been used to distinguish emergency situations arising out of conflict, political breakdown and exploitation. These may be sudden and acute, or more chronic and persistent crises, even permanent emergencies. The cyclical model of emergencies as a sequence of events, starting with warning, emergency response, rehabilitation and reconstruction has by and large been rejected in favour of a complex feed-back loop in which chronic (underlying) conditions interact with periodic breakdowns in the availability, access and/or utilization of resources, services and/or security. There are respites between acute conditions, but the trajectory of change (for better or for worse) is neither pre-determined nor linear.

Conflict-driven emergencies characteristically have multiple causes, including political breakdown or exploitation, and military offensive, which compound existing

[2] Development emerged as the predominant discursive framework during the years after the Second World War, and was no doubt influenced by cold war rivalries between the US and the former Soviet Union. The pressing social and economic conditions of Africa, Asia and Latin America, which contributed to poverty, were deemed as the major policy issues to be addressed within underdeveloped countries, with support from developed western 'donor' nations.

[3] Previous to the Cold War international emergency relief was primarily used in natural disasters and refugee crises.

vulnerability to natural disasters. They are further complicated by the role of external forces, which often contribute to more, rather than less instability, despite the avowed aim of mitigating the impact of catastrophic events (Duffield 1994).

This has generated major shifts in patterns of aid programming away from development towards humanitarian assistance, especially where food aid is concerned (Webb, 2000). In a context of narrowing diplomatic, political and economic engagement with marginalized nations, donors have come to see disaster relief as their priority concern, and hence the predominant mode of international assistance to developing and transition economies (Macrae 2001). A further step has been the direct coupling of humanitarian assistance with military and diplomatic action, as witnessed in Somalia, Bosnia, Kosovo and now in Afghanistan. The development by the US Department of Defence of Humanitarian Daily Ration packs (air-dropped to otherwise inaccessible conflict affected populations) has become a symbol of this increasingly explicit link. International humanitarian organizations are concerned that the coupling of humanitarian and military objectives threatens not only their security, but also their ability to provide assistance, since it undermines perceived neutrality, impartiality and independence of their relief operations (Ford and Davis 2001; Ford 2001).

At the same time, the new focus on crises has raised donor expectations. "Relief" is no longer expected just to save lives but also increasingly a) to lay the foundations for future development interventions, b) promote conflict resolution, and/ or c) to contain refugee flows. All of this in a context of narrowing diplomatic, political and economic engagement with the people most vulnerable to crises – the poorest, most marginalized and politically-insignificant communities of the world. These expectations of relief are often not accompanied by adequate financial and staff resources to adequately address this enlarged scope of action.

The most common life-threatening risks are usually driven by an interaction among food and health crises and conditions of personal insecurity. Thus a combination of food-based, public health and security enhancing strategies are needed simply in order to save and secure lives in the short-term. The humanitarian responses in this domain are now well recognized by the international humanitarian and donor organizations. Programming principles and priorities are reflected in a growing body of international guidelines and standards aimed at increasing effectiveness, professionalism and accountability (MSF 1997; MSF 1995; The SPHERE Project 1998). While these classic approaches to addressing life-threatening risk remain the dominant mode of humanitarian response, a range of food security strategies are evolving that incorporate broader goals of rights protection and livelihood support (which are two key characteristics of the 'new humanitarianism' (Fox 2001)). These are not necessarily alternative strategies to traditional approaches, but rather are intended to complement and strengthen them.

Strategies to support or protect food security are just one example of the different entry points that could be applied in the context of a livelihoods approach. It has been argued that in food-driven emergencies relief programmes should wait to act until all sources of livelihood support are exhausted. Instead, intervention should be programmed

sufficiently early to prevent the disposal or loss of productive assets and human capacity for self-sustenance. In chronic political emergencies, such as Sudan in the mid-1990s, this approach has to some extent been discredited since there can be a loss or distortion of both humanitarian and developmentalist principles (Macrae et al. 1997)[4] .

That said, there has been increasing attention during the past decade on seeking ways of understanding, and then enhancing, people's 'livelihoods' and not just their 'lives'. This thinking currently permeates not only the poverty reduction field, (Ashley and Carney 1999; Carney et al. 1999; DFID 1999), but increasingly informs and influences the humanitarian imperative. It is, however, necessary to explore the differences between the 'sustainable livelihoods' paradigm and the livelihoods approaches as applied in emergency contexts and the limitations of the sustainable livelihoods framework in the context of conflict and crises situations.

## A problem of definition – livelihoods, vulnerability and resilience in emergencies

Given the wide array of disciplinary backgrounds and sectors engaged in responding to emergencies, it is not surprising that many concepts lack common definitions and carry different meanings according to the background and objectives of the user.

### *Natural disasters and vulnerability*

In relation to natural disasters the concept of vulnerability is central to the debate about their causes, and thereby the solutions. Proponents of vulnerability argue that it takes more than extreme physical events (hazards) to produce disasters. Bankoff, (2001), argues that attributing disasters to natural forces, representing them as a departure from a state of normalcy to which a society returns to on recovery, denies the wider historical and social dimensions of hazard and has focused attention largely on technocratic solutions. Vulnerability analysis focuses on the factors that make a community unsafe, which depends on a society's social order and relative positions of advantage or disadvantage(Blaikie et al. 1994). Vulnerability is correlated with under-priviledge, with past losses and with susceptibility to future as a result of their marginality, which in itself is determined by variables such as class, gender, age, disability and ethnicity. This affects their command over basic necessities and rights as broadly defined (Hewitt 1997).

In other words, vulnerability results from a lack of resources, services and security and people most lacking these elements are very often constrained to live in areas least likely to be receiving the benefits of development, and most likely to face a range of hazards (Alexander 1997). This does not imply that all people are vulnerable, nor that all vulnerable people are poor - the element of risk (what someone is vulnerable to) has to be defined, as does the potential for that person to deal (cope) with that risk (Chambers

[4] See Maxwell, 1999, for a comparison of these principles in the context of programming in chronically vulnerable areas.

1989). Natural disasters may appear to affect the poor disproportionately, but in fact this is not always the case. Earthquakes hitting cities or major floods may affect 'rich and poor' alike – however, it is the greater capacity of the rich to overcome such a shock that matters. Wealthier individuals and societies protect their assets and income streams (their livelihoods) through income diversification, the accumulation of disposable assets, and by means of formal and informal insurance. It is the fact that poorest households are constrained in their ability to pursue such avenues that makes them more vulnerable to the (perhaps otherwise equal) impact of an exogenous shock.

The problem of mitigating natural disasters thus becomes one of reducing vulnerability, by promoting sustainable development and by instituting measures to increase a community's resistance to losses and casualties (Wisner, 1993, quoted by Alexander 1997). The International Decade for Natural Disaster Reduction (IDNDR) was in part an attempt to reduce worldwide vulnerability to disasters, but has been criticized for its emphasis on technocratic solutions to what are more widely perceived as social, economic and political phenomena (Hewitt 1997).

### *The nutritionally vulnerable*

From a nutritional perspective, 'vulnerable groups' have yet a different yet distinct meaning. The nutritionally vulnerable are generally considered to be those facing particular nutritional risk, either as a result of their stage of the life-cycle; infants and young children, pregnant and lactating women, the elderly; or those who have relatively greater nutritional requirements as compared with their ability to meet those needs (women, the sick, the disabled). Estimates of the prevalence of acute malnutrition (wasting) among infants and young children are important 'proxies' for the nutritional (physiological) vulnerability of a population, but give no indication of how precisely a given shock has affected a community.

Because of the limited dimensions of physiological vulnerability, it does not necessarily identify the most vulnerable in all contexts, as it fails to take into account the risks people face as a result of a failure in any of the three groups of underlying causes of malnutrition, related to food, health and care. In other words, while physiological risk is itself constant, the actual degree of risk associated with 'physiological risk' will be affected by context. For example, the elderly may have increased physiological risk, (decreased mobility, poor dentition etc), however, if family and community caring and support practices continue to exist to care for the elderly, they are not necessarily at increased risk. Furthermore, while the under-five year olds are physiologically at risk, it is not necessarily this group who are most vulnerable in all contexts (for example, in the Kosovo crises, and more recently in Afghanistan). Therefore, while the definition of physiological risk is extremely important, it does need to be viewed in the context of other underlying and influencing factors, including livelihoods.

### *Livelihoods and vulnerability*

Livelihoods are a means of supporting human life (Merriam Webster Dictionary) or a means of living (Oxford Dictionary, 1976). They represent more than just the necessities of life, since they are shaped by the goals, preferences and constraints of individuals, households, communities and societies. As Scoones (1998) puts it,

> *'A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base(Scoones 1998)'.*

The "goals" of a community are likely to be multi-faceted and context-specific, but typically include at least the following:

- Economic resources (access to employment, use of land and natural resources, markets and trading opportunities, small enterprise);
- Technologies (agricultural- and production-related)
- Financial resources (access to money or other liquid resources; assets, cash/savings and credit, remittances, debt, etc)
- Human capital (education, skills, ability to work (health and strength), etc)
- Social capital (networks, community relationships, claims and obligations, community security; etc)

Studies of behavioural responses (coping and adaptive strategies) to food insecurity and famine have shown that these goals shape peoples responses according to perceived benefits, costs and trade-offs. An important step in an analysis of livelihoods is trying to understand the costs and benefits that shape livelihood strategies in any given context (the range of activities that are followed), and thereby the vigour with which they may be pursued by various individuals or communities depending on their pre-existing capacities and constraints.

In many crises individuals are typically obliged to reduce the number of meals consumed, and the quantity of food consumed, and/or switch to cheaper but less preferred foods(Corbett 1988; Young and Jaspars 1995; de Waal 1989). Indeed constraints to food consumption remain central to most people's experience of any crisis. For example, people forcibly displaced from their homes in central Burundi would return to try to retrieve root crops from their homesteads, which meant travelling to insecure areas and risking attack. Similarly, refugee women would travel from refugee camps in northern Uganda to insecure areas where they had plots of land cultivating crops, or were collecting wild foods(Payne 1997). The "choice" to consume less food for a period of time does not imply a preference for less food, rather an imposed prioritisation among alternative routes to survival. In this sense, people cut back on food to protect key resources upon which their livelihood depends.

These resources typically include:

- Economic resources (access to employment, use of land and natural resources, markets and trading opportunities, small enterprise);
- Technologies (agricultural- and production-related)
- Financial resources (access to money or other liquid resources; assets, cash/savings and credit, remittances, debt, etc)
- Human capital (education, skills, ability to work (health and strength), etc)
- Social capital (networks, community relationships, claims and obligations, community security; etc)

Empirical evidence from many countries demonstrates that 'less vulnerable' households in crisis situations tend to have more diversified income streams, and those initially more diversified (in terms of asset base and income sources) make faster and greater gains in both income growth and calorie intake in a post-crisis environment (Barrett, Reardon and Webb 2001). However, in many complex emergencies even the previously wealthy may not be able to protect their advantage. A key characteristic of conflict-related emergencies is that the basis of livelihood sustainability comes directly under attack. The extent to which livelihoods (versus people) are "vulnerable" to attack or loss is therefore a question central to any assessment of 'need' in a complex emergency setting.

According to Hoon et al., 1997 "vulnerability" and "sustainability" can be viewed as two ends of a continuum. The properties of a vulnerable livelihood system are contrary to those of a sustainable livelihood system. For example, a sustainable livelihood aims to:

- Manage (reduce) the risk of "exposure" to crises, stress and shocks
- Enhance the "capacities" of people to cope with stress, crises and shocks, thus reducing vulnerability
- Focus on "potentiality" by maintaining and enhancing enabling environments within which people can realize their livelihood aspirations.

Others do not present vulnerability and sustainability as two ends of a spectrum, but consider issues of livelihood adaptation, vulnerability and resilience, separately from the natural resource base sustainability (Scoones 1998), which illustrates the differences in perception of sustainability.

Vulnerability as a concept couples both risk and resilience (coping ability). It can be argued that the risk component (the nature of the external shock) is given relatively less importance in the Sustainable Livelihoods approach since this approach is more concerned with strengthening resilience; improving a community or household's ability to manage risk. This may mean that a sustainable livelihoods analysis may play down or even possibly ignore the nature of the external shock and risk involved.

### *Conflict and risk*

In complex emergencies, however, a whole new dimension of risk related to conflict is introduced, since CPEs are characterized, in part,

> *"by the deliberate exploitation of civilians. Undermining self-sufficiency and productivity are not merely by-products of conflict, but also are the intended consequences of functional violence and war."*(Lautze 1997).

It has long been recognized that armed conflict is one of the major causes of famine in Africa, since it results in more rapid disintegration in the functioning of both the market and the state, and restricts the mobility necessary for livelihoods. The reverse is also true, in that famine and direct attacks on food systems have been used as an instrument of war (de Waal 1993). The nature of risk introduced by conflict and violence varies according to the dynamics of each particular conflict. Various classifications have been proposed. Macrae and Zwi (1992) review attacks on food systems as a common instrument of war, and propose three categories of activity. First, there can be a failure of governments to instigate and facilitate appropriate emergency measures for all sections of society; 'acts of omission'. Second are 'acts of commission', which are direct attacks on the means of producing and procuring food, including attacks on relief convoys, safe corridors and markets. These processes are central to the process of famine creation and quicken the pace by blocking coping strategies, especially those that require unrestricted movement and mobility. Third, governments may selectively provide to those sections of society from whom support is sought or to lure sections of the population to areas controlled by the military; 'acts of provision'(Macrae and Zwi 1992).

Low levels of conflict, but nevertheless incorporating extreme violence, occur outside of the context of intra and inter-state war, and can in themselves have devastating impacts on livelihoods. In the Horn of Africa, there are several national border areas characterized by conflict and insecurity. This is in part a negative consequence of the long-standing cross-border trade in arms and cattle, which led to a 'militarisation' of pastoralist districts; as a result, herders arm themselves with ever-more sophisticated weaponry for defensive (or other) purposes. Among the Turkana of north east Kenya, for example, the traditional livelihood-enhancing functions of livestock 'raiding' (through re-distribution of pastoral resources), have to some extent been replaced by more predatory forms, which undermine livelihoods by restricting mobility which is the death knell for pastoralism (Hendrickson, Armon, and Mearns 1998). Traditionally raiding was governed by complex inter-clan rules, making extreme violence, especially against women and children socially unacceptable. Predatory raiding, on the other hand, is said to be largely initiated by people outside Turkana, who are also outside of the customary conventions. Their motives are commercial and their tactics are extremely violent (ibid). Beyond this predatory form of raiding is the indiscriminate banditry, or shooting at vehicles travelling through Turkana, which necessitates travelling in convoys with armed escorts. This form of armed robbery has no doubt become a new form of livelihood for some. On a different level, an evaluation of food distribution in Turkana in 1997, found that petty thieving and burglary all but ceased once food distribution started (Jaspars et al. 1997).

Violence is frequently characterized by the forced migration of communities away from the region of conflict to safe areas. Crossing borders usually grants the forced migrants the status of *prima facie* refugees, while the internally displaced have no such

international recognition. Displacement of people automatically separates them from their means of livelihood. Without the resources upon which their livelihoods are based it is unlikely they will be able to secure an adequate living. Of more pressing importance however, is likely to be the health crises and greatly elevated risk of dying, that is common in the acute phase of an emergency, where there is limited shelter, overcrowding, lack of sanitation and clean water and lack of food.

For our purposes of considering livelihoods in the context of crises and conflict, we would therefore emphasise the element of risk introduced as a result of conflict. We are concerned with "vulnerability" as the risk of harm to people's resources as a result of the inability to counter external threat arising from conflict, or as a result of inherited or ascribed traits such as gender, class, race/ethnicity, age, etc made salient by the nature of the conflict. Thus in a complex emergency the multiple risks facing people, include the risks engendered by conflict itself.

A definition of livelihoods in communities facing conflict might be as follows,

> *Livelihoods comprise the ways in which people access and mobilize resources that enable them to pursue goals necessary for their survival and longer-term well-being, and thereby reduce the vulnerability created and exacerbated by conflict.*

## Nutrition and livelihoods; overlapping analytical frameworks

This section argues that a crossover of ideas between a livelihoods analysis and the framework of underlying causes of malnutrition would be mutually beneficial in both fields.

Livelihoods determine, and in themselves are determined by, the nutritional status of individuals. The interactions operate through a range of pathways, including both direct and indirect. Within the livelihoods concept, nutrition is one of several fundamental components; nutrition is potentially either a type of **resource**, a recognized **goal** or measurable **outcome**[5]. Nutrition is not necessarily the most important input or the most important goal, but a livelihoods analysis cannot afford to ignore nutrition.

A considerable strength of the livelihoods approach is that the importance of nutrition is likely to vary according to the perceptions and priorities of people themselves and the nature of their vulnerability. Thus a livelihoods analysis attributes to 'nutritional well-

[5] CARE has described nutritional (anthropometric) status as potentially one of the most useful indicators for monitoring livelihoods approaches.

being' the importance with which communities themselves ascribe to it -- an uncommon departure from a disciplinary point-of-view[6].

While one must be wary of assuming perfect knowledge or indeed the ability of malnourished individuals to 'express' a preference for better nutrition, this viewpoint overcomes one of the drawbacks of the current conceptual frameworks for nutrition (UNICEF 1990), which is their failure to include local cultural perspectives of malnutrition. Key questions outsiders frequently fail to ask relate to the role nutrition has played in shaping livelihoods; what is the cultural significance of malnutrition and how has that shaped societies and households subsequent behaviour[7]? Patterns of resource utilization, such as household decisions about the use of food produced, do not necessarily maximise the potential for good nutrition, as explained in the earlier sections (coping strategies may involve reducing food consumption or sacrificing nutritional quality). The underlying rationale for these decision-making processes may be easily missed where a purely a nutritional perspective is taken.

The conceptual framework of causes of malnutrition describes three clusters of underlying causes; household food security, the social and care environment and access to health services and the health environment[8]. Household food security is principally concerned with the livelihood activities or strategies that generate access to food and income. The importance of livelihoods as a determinant of household food security and even access to health services is fairly obvious, but less immediate is the importance of livelihoods in relation to the 'care' cluster of underlying causes of malnutrition. Livelihoods are clearly essential for maintaining functioning social networks, based on mutually beneficial exchange in terms of labour, assets and food. These are the foundations of the direct care-giving behaviours, which if disrupted may lead to malnutrition.

The social and economic inter-dependence that creates social networks may be severely disrupted even replaced by more predatory systems in times of conflict. In Turkana district for example, the increase in extremely violent forms of raiding that incorporated a criminal element was felt to lead to a collapse in the moral economy(Hendrickson, Armon, and Mearns 1998). Wider social changes have a profound effect not only on food security, but also on the social networks and care-giving behaviours that are necessary to ensure adequate nutrition. Issues such as social cohesion or the divisions caused by narrowly targeting interventions are central to understanding nutritional impact.

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[6] This has important implications for the success of nutrition interventions. For example, in Ethiopia it is customary to keep small livestock within the home, which has major implications for household hygiene. Yet this cannot be addressed effectively using nutrition education unless the significance of keeping small stock in the homes is understood. Food aid may be the only form of liquid assets available, in which case consumption of the ration will be determined in part by the households need for currency.

[7] Bankoff argues the more a threat is chronic (i.e. permanent emergencies) the greater the integration of that conception within the interpretative framework as a 'normal' experience; what Anderson 1968 calls a 'normalisation' of threat *(need to check reference).*

[8] The framework of underlying causes was originally developed by UNICEF, who refer to the care cluster of underlying causes as 'maternal and childcare' not 'the social and care environment' (UNICEF 1990).

The household livelihood security framework developed by CARE incorporates food security as an aspect of nutritional security, which in turn is a central component of household livelihood security (which is defined as sustainable, adequate access to resources to meet basic needs) (Frankenberger and McCaston 1998). These authors consider it misleading to treat food security or nutrition independent of livelihoods, in other words there is a need to recognize multiple constraints, as well as opportunities facing households, which influence household decisions.

A further dimension that a livelihoods analysis needs to consider is the recognized seasonal determinants of malnutrition. (Longhurst 1979). Seasonal variations in anthropometric status are frequently associated with the 'hunger gap' and subsequent post-harvest period. Rural areas experiencing a single rainfed harvest are associated with more pronounced seasonal differences as a result of reduced food availability during the hungry season followed by a surplus post-harvest which is rarely sustained until the next harvest(Young and Jaspars 1995). Such seasonal differences may be reduced in areas that enjoy a more diverse range of food sources, including two or even three harvests per annum, such as Rwanda and Burundi.

Based on the definition of livelihoods proposed earlier, a 'livelihoods analysis' in communities facing conflict might consider the following,

1. Access to livelihood resources (their extent and mix)
2. The strategies used to access and mobilize these resources
3. Peoples' own livelihood goals
4. Livelihood outcomes (and pathways to these outcomes)
5. How each one of these aspects of livelihoods is likely to be affected by changes in vulnerability linked with conflict.

The conceptual framework of underlying causes of malnutrition framework complements the livelihood analysis by elucidating the effect of risks to livelihoods on malnutrition, and also the mitigating effects of livelihoods interventions on malnutrition, through either indirect or direct pathways.

The next section illustrates a livelihoods approach to relief interventions, and how livelihoods approaches relate to nutrition.

## Case-studies of livelihoods, livestock and nutrition; reducing vulnerability and risk

Three case studies are presented which focus on interventions to support livelihoods based on pastoralism in recent emergency contexts in the Greater Horn of Africa, including the Kenya 1999-2000 drought, refugee returnee programmes in eastern Ethiopia in 1997, and southern Sudan in the nineties.

### *Kenya 1999-2000; De-stocking*

*Background to the 1999-2000 drought in Kenya*
The 1999 – 2000 drought in Kenya was more severe and more widespread than either the 1992-93 or the 1996-97 droughts. It extended beyond the perennially drought-prone arid districts of northern Kenya, to include marginal agricultural districts of Eastern, Coast and Rift Valley Provinces. It is estimated that more than 2.3 million sheep and goats, over 900,000 cattle and 14,000 camels valued at approximately 5.8 billion Kenya shillings were lost. The drought thus had a massive impact on the resource base of the livelihoods of both pastoralists and agro-pastoralists. Many dropped out of the production system altogether to settle in peri-urban areas, in close proximity to food relief distribution centers.

Previous responses to drought among Kenyan pastoralists were mainly based on the distribution of relief food, particularly cereals (Jaspars et al. 1997; Bush 1995). In some areas the distribution of free relief food has been extended well beyond a temporary short-term measure, and regions such as Turkana district have been receiving relief food on and off for at least the past 10 years. During the drought of 1999/2000 the distribution of food relief was more extensive than ever before due to the widespread nature of the drought[9].

A major difference in 1999-2000, as compared with previous droughts, was the commitment (on the part of the Government of Kenya, donors, FAO and NGOs) to supporting the livestock sector in order to mitigate the effects of prolonged drought on the pastoral population.

The livestock intervention program in pastoral areas that took place in 2000/1 is thought to be the largest of its kind in East Africa, possibly in the world[10]. These included; de-stocking interventions; animal health activities (veterinary projects); livestock transport subsidies; livestock feed; re-stocking; and cross-border harmonisation and peace initiatives(Aklilu and Wekesa 2001). Many of these interventions are not new as such, but the scale and level of coordination of the emergency livestock initiative in 1999 – 2000 was unprecedented.

The total value of livestock saved and salvaged through the various interventions is estimated to be more than $2 million (ibid).

[9] Food relief started in February 2000, and the number of beneficiaries increased steadily throughout the year from 1.7 million in February to 3.3 million in December 2000
[10] A total of 21 projects in 10 districts involving 13 agencies were implemented. Donors gave close to $4 million for the drought-related livestock intervention program between June 2000 and January 2001(Aklilu and Wekesa 2001).

*De-stocking – an overview*

During periods of drought, de-stocking interventions[11] involve the purchase of livestock from pastoralists, when the condition of livestock has deteriorated due to a decline in vegetation, and mortality has subsequently increased. Livestock markets are over-supplied and animals are generally in poorer condition, thus producing a collapse in livestock prices and an increase in the price of animal fodder (because demand is high). De-stocking tends to focus on small stock, rather than cattle, which may be moved to distant pastures, or camels that are often considered too valuable to be slaughtered.

De-stocking provides pastoralists with the typical market price for their livestock, and they are free to use this income as they see fit. There is a strong multiplier effect of the generated income, income from the sale of animals was used in Kenya for buying water for livestock, veterinary drugs, payment of school fees, purchases of essential household necessities including food, and for setting up small businesses, like tea-shops. While at the same time this economic activity would drawing food and other basic necessities into local markets thus generating local business. The off-take of animals reduces pressure on grazing, making more available for surviving livestock.

The purchased animals are slaughtered, the hides and skins may be sold, and the meat is distributed, either as fresh meat or it may processed by air-drying to give it a longer storage life. The processing of animal carcasses has formed the basis of cash-for-work and food-for-work programmes.

In the Kenya programmes local community groups or relief committees organized the distribution of meat and the selection of beneficiaries. In Worgedud, Mandera, for example, beneficiaries were selected mainly on the basis of those who couldn't pay for borehole water fees for their animals, while in Takaba, Mandera, selection was made on the basis of those with the most pressing cash problems – such as having sick family members in need of mediation, or families whose children were threatened with expulsion from school for non payment of fees, or families unable to buy the most basic food stuffs.

*Nutritional benefits*

Both fresh and dried meat obviously have a relatively high nutritional value and in emergency contexts complement well the free distribution of grain-based rations. In addition animal oil is made available, which is energy dense and improves palatability of the diet.

The de-stocking interventions in Kenya indicated that the distribution of fresh meat was generally preferred to the processing and distribution of dry meat. Fresh meat was cheaper and simpler to produce, faster to distribute and entailed minimum wastage. For beneficiaries it was felt to be more satiating in terms of appetite and above all was preferred by pastoralists.

[11] De-stocking in the traditional sense is done to reduce the livestock population from ranches etc., for marketing purposes to balance stocks with carrying capacity of the land. It is a management technique to sell finished animals, in contrast to 'culling' unwanted animals (old or sick animals).

The distribution of fresh meat with proper planning raises the possibility of replacing the vegetable protein (pulses) in the relief food ration with animal protein at a much reduced cost and enhanced nutritional value. Critical reviews of de-stocking programmes have argued they should be run in conjunction with other forms of humanitarian assistance (Heffernan and Rushton 1998).

The success of de-stocking as an emergency intervention is contingent on the timeliness of its implementation in relation to cycles of drought, local knowledge on the part of the implementing agency, and the legitimacy or representative ness of the local relief committees or community groups that are involved.

The timing of this type of intervention is critical, before too many livestock deaths due to drought or disease have occurred and to prevent pastoralist households from dropping out of pastoralism systems of production and joining the destitute in search of relief in peri-urban areas. Also the prompt sale of stock ensures more and better quality meat.

## Example 1 Destocking in Wajir by ALDEF, funded by DFID through OXFAM GB (from Akilu and Wekesa, 2000)

ALDEF were involved in two phases of de-stocking in 7 peri-urban and 7 sparsely population rural areas. The first phase took place in Sep/Oct 2000 (Kenya Shillings (Kes) 7,228,540) and the second phase in Feb/Mar 2001 (Kes 7,290,481). Altogether, ALDEF planned to destock 950 cattle/camels, and 7,500 shoats in the two operations.

Community based 'Livestock off-take committees' were formed to oversee the operation, including;

- Identification and authorization of 'honest and trustworthy' commercial contractors to purchase livestock from pastoralists to supply the fresh meat distribution programme,
- Signing delivery documents
- Witnessing the slaughtering process, which took place twice a week;
- Selecting beneficiaries for the distribution of fresh meat
- Collecting skins and hides
- Managing disputes in the community
- Liasing with ALDEF.

Beneficiaries of fresh meat were mostly the peri-urban poor close to Wajir town (victims of the previous drought), high school students, hospital patients and orphans. A few rural beneficiaries were also incorporated in the distribution.

Among the contractors, included members of the 227 poor women groups in peri-urban areas, who were already supported by ALDEF micro-credit programs. This group supplied the bulk of the shoats in both operations. In rural areas, however, men were contracted. Individual women contractors also supplied cattle and camel distributed to schools and hospitals.

The purchasing price was fixed at Kes 1,000/shoat and at Kes 4,500/cattle or camel and raised to Kes 1,200/shoat, Kes 5,000/camel and 5,500/cattle during the 2nd operation. Contractors were instructed on the type of animals they were to buy (that were too weak to survive the drought; generally male animals; females with udder defects, old or barren animals, and those with a history of abortion).
Agreement was entered between ALDEF and the contractors on the number and types of animals each contractor had to supply. The contractors sold the shoats to ALDEF at the fixed price retaining any profit for themselves.

Purchased animals were handed over to the committees for which delivery notes were issued for effecting payments. Sick animals requiring treatment were kept until they regained their health for distribution in the next allocation. Infected organs were condemned after post-mortem examination by Public Health technicians. Livestock that were considered too small by the communities for the price offered had to be replaced. Committee members and ALDEF monitors witnessed the distribution of the meat.

Fresh meat was distributed on regular basis to beneficiaries at the following rates:

- 2 shoats per 8 families per week for the duration of the operation
- 2 bulls or camels per week per school for 3 and later 4 high schools;
- 6 goats per week to a hospital;
- 3 goats per week to a TB centre;
- 3 goats and 1 bull per week each for six orphanages.

*Benefits of the project*
Meat was made available to 17, 000 beneficiaries, including 1,800 students, 270 patients and 520 orphans over the project period. The provision of meat valued at Kes 325,000 was taken in lieu of payment of school fees for 64 bright but poor students. The distribution of meat was thought to increase school attendance, and improved nutrition in schools, orphanages and hospitals.

Other benefits included the strong support to local women's group and their direct involvement in

community based relief activities. In fact the strong community involvement and task oriented committees to run the programme was thought to central to its success.

The destocking part of the exercise resulted in just over 11 million Kenya shillings paid to over 7,000 pastoralists for their livestock. Although, the contractors need to maximise their own profits by buying at a lower price than they sold to ALDEF were recognized as a project weakness. In addition, the project's geographical coverage was limited to urban areas, while largely ignoring rural areas.

This project demonstrates that fresh meat from destocking programmes can be regularly distributed to beneficiaries in the same way that relief food assistance is

## Example 2 De-stocking (*and re-stocking)* pastoral households in the lowlands of Marsabit, Kenya (Aklilu and Wekesa 2001)

The Department for International Development allocated USD174, 650 to fund the Anglican Church of Kenya (ACK) to de-stock 4,800 small stock and some cattle; some 6000 shoats and 45 cattle were finally purchased and slaughtered. This programme generated a total of 16, 7 MT of fresh meat, 2,67 MT of dried meat and 814 l of animal oil, which was distributed to 6063 beneficiaries in 1288 households.

The rains started partway through during this destocking, which meant in some areas there was a switch in programming priorities from destocking to restocking. Fortunately, the donor DFID was very flexible and approved a request to use the destocking money for restocking. This highlights the importance of being able to respond to the changing circumstances and needs of the community. Re-stocking was planned to benefit at least 400-450 poor households each with 30 small stock for breeding purposes and a loading camel to facilitate mobility.

This programme was partly in response to the delegations of pastoralists from the lowlands who travelled to Marsabit town to request help for their animals in the form of animal feeds. They were quoted as saying, *'Never mind about the maize given to us by the World Food Programme. Give us food for our animals so that as they survive we can also survive*".

The objective of the intervention was to salvage the value remaining in some of the animals, provide meat to vulnerable households and support the purchasing power of households through livestock purchase. In partnership with local communities the ACK purchased male goats for 300 kenya shillings in cash and 10kg high protein concentrate animal feed for their most valued remaining animals. Initially one goat was purchased from each household to ensure wide programme coverage.

The goats were slaughtered immediately after purchase, the meat cut into long strips, soaked in salt water for several hours, and sun-dried for 3 to 7 days. Men were hired to slaughter and skin the animals, while hired women prepared the meat for processing.

Local opinion was that the nutritional status of vulnerable members of the community improved significantly after receiving the meat, liver and animal oil. Purchasing power improved, making it possible to buy livestock drugs for remaining livestock, and household goods, such as sugar and tea, and to pay for school fees.

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### *Southern Sudan 1990s; Provision of livestock health services*

*Background to the complex political emergency in Southern Sudan*
Civil war has plagued Sudan for decades, largely a result of issues of governance arising as a result of political, economic and cultural differences between the predominantly Muslim north and the Animist and Christian south. Conflict has also arisen as a result of Government of Sudan (GOS) strategic interests in oil reserves in the south, and also localised socio-political and military strategic interests.

The majority of southern Sudan's 6 million people are subsistence farmers, most of whom rely on transhumant pastoralism. They broadly fall into three ethnic groups; Nilotics; Nilo-Hamites; and the Western Sudanic. The Nilotic Dinka and Nuer form the majority of transhumant pastoralists owning about 85% of southern Sudan's cattle and occupy the flood plains and part of the central rainland zones (Gonda and Mogga 1988).

In 1989 the first UN managed humanitarian programme known as Operation Lifeline Sudan was established in response to the widespread humanitarian suffering in southern Sudan. Bahr el Ghazel in southern Sudan has experienced some of the highest ever-recorded mortality rates as a result of famine, first in 1988(Keen 1994) and again in 1998. Both these situations were precipitated by conflict; in 1988 by the armed attack and raiding by government-supported Baggara Arab militias against Dinka pastoralists, whose livestock was stolen, granaries destroyed, villages burnt and survivors were forced to flee to the north (ibid).

Cattle raiding and extremely violent armed attacks on pastoralists have characterised the conflict in southern Sudan since 1983. Even before the worst of the raiding in 1988, the transfer of livestock resources from the south to the north was very great. The Mundari were attacked by the SPLA between December 1984 and April 1985, mainly because of their neutrality and non-involvement in the war and because they were an obstacle to the onward advance of the rebels towards Juba (the government controlled capital of Equatoria). Villages were burnt, cattle and granaries were looted, and innocent people killed(Gonda and Mogga 1988).

Since 1994 the Dinka in Bahr el Ghazel were further subjected to raiding and destruction by Kerubino's forces (allied to the GOS). In January 1998 Kerubino switched his alliance from the GOS to the SPLA and attacked Wau (a GOS held garrison town). The resulting displacement, together with drought and poor harvests in 1997, created famine throughout Bahr el Ghazel in 1998.

Prior to the late eighties the southern parts of the country were very poorly served by government veterinary services; only very limited livestock services were operative in the major southern towns of Juba, Wau, Malakal, and other GOS controlled towns. This lack of services in part contributed to the endemicity of Rinderpest, a disease of cattle that is prioritised by pastoralists in the south. Prior to the 1990s pastoralists in southern Sudan were also marginalized by the conventional livestock vaccination activities operated by the Pan African Rinderpest Campaign (PARC), because of the insecurity and

logistical difficulties that limited use of cold chains and conventional, government recruited vaccinators.

*Veterinary projects – an overview*

Just as excess human mortality during famine is driven by a combination of starvation and disease brought about by localised health crises, livestock losses during drought and complex emergencies are similarly associated with increased disease transmission and a deteriorating condition of livestock. An increase in disease transmission rates occur as a result of concentrations of livestock numbers around remaining water holes and exposure through duress migration, or increased susceptibility to disease because of stress. Veterinary care of livestock can reduce livestock losses during drought periods by treating or preventing diseases in addition to the buffering capacity provided by preventative animal health care with regard to the physiological stress of migration or other conflict induced actions (similar to the saving both lives and livelihoods for humans). Furthermore, healthier animals make more efficient use of remaining grazing resources. Therefore timely veterinary interventions can be very effective at preventing livestock losses and are highly cost-effective[12]. Well-implemented community based animal health programmes have short and long-term benefits at both the individual and community level.

## Example 3 Delivery of Veterinary Health Care Services; Southern Sudan

The OLS veterinary programme aims to improve household food security through two pathways; the Rinderpest vaccination programmes, which were initially to control and more recently, to eradicate Rinderpest, and the establishment of community based animal health programmes in southern Sudan on a cost-recovery basis.

In the early nineties the development of a thermostable rinderpest vaccine meant that the area of service delivery was no longer constrained to where a cold chain could be maintained. In 1993 participatory approaches developed by NGO animal health projects in Afghanistan and the Greater Horn of Africa were introduced to operations in southern Sudan as a means to deliver this vaccine to remote pastoral areas. Community based animal health workers (CAHW) were trained and equipped to vaccinate cattle against Rinderpest with the active participation of livestock-rearing communities, and also to deal with problems such as internal and external parasites, wounds and miscellaneous bacterial diseases.

*Output; efficiency of service delivery*

Southern Sudan covers approximately 800,000km and the estimated cattle population is 5.8 million in addition to 1-2 million in government controlled areas (OLS Southern Sector working figures Jones, 2001). Between 1989 and 1992, the UNICEF livestock programme used conventional cold chains and vaccinated an average of 285,000 cattle against rinderpest annually (ibid**).** In 1992 the programme came to a virtual standstill as insecurity disrupted cold chains and vaccination teams. In this year, only 140,000 cattle were vaccinated.

In 1993, 1994 and 1995 CAHWs in southern Sudan vaccinated 1,489,706; 1,743,033; and 1,070,927 cattle against rinderpest respectively. There have been no confirmed outbreaks of rinderpest in southern Sudan since 1998. By 1996 a network of 563 CAHW's had been established. These CAHW's treated 1,272,922 cattle, 156,115 ruminants and 99,634 domestic fowl during 1996 . No records were available to compare these treatment figures to the period before the onset of the CAHW system. Only parts of Equatoria were accessible by road; the rest of the rebel-held areas had to be accessed by air, and the number of places accessed was limited.

*Impact - nutritional*

Evaluation of the OLS veterinary programmes has traditionally focused on process indicators of service delivery as well as more qualitative one-off evaluations of program impact. A study in 2001 identified five broad categories of indicators to monitor impact. These included:

1. Impact on animal health and herd size;
2. Impact on availability, access and utilization of livestock holdings;
3. Impact on availability, access and utilization of livestock products in the home;
4. Contribution to long-term viability of household coping mechanisms by strengthening kinship ties, and
5. Impact on health status of beneficiaries (nutrition, morbidity and mortality)(Holland 2001).

The programme's impact on nutrition is either a result of direct consumption of livestock products, or alternatively through a wide range of indirect pathways, that either influence consumption patterns or exposure to disease within the household[13]. (ibid).

In times of stress, like drought or the annual hunger gap, cows may be auctioned or exchanged for grain, or slaughtered for meat. It therefore appears that cattle resources are perhaps more important to daily food intake only in times of duress (ibid).

*Impact during times of crises*

A study three years earlier at the end of the dry season (hunger gap) in the same area coincided with severe drought and conflict in other parts of southern Sudan, which produced widespread hunger, and

[13] Improved cattle health was also thought to contribute to improved human health and HFS by decreasing exposure to zoonotic diseases, and the loss of income this would represent (Catley, 1999).

acute food shortages(Harinarayan 1998). The study found that in each of the villages included, the amount of meat in the diet increased dramatically; some families reporting their diet solely consisted of meat and vegetables. In a society where excessive (daily) meat consumption is considered harmful to physical health and social well-being, this was a clear indication of a survival strategy. The local slaughterhouse also reported a 66% increase in the number of cattle slaughtered for consumption between the months of May and July 1998 (ibid). One of the reasons for the steep increase in meat consumption was the lack of grain and declining terms of trade between livestock and cereals, which reveals an ideal opportunity for a combined intervention addressing both the need for grain and protection of livestock. In conclusion, successful veterinary care programmes must be responsive to periods of stress, whatever the cause, by supporting their community based animal health workers and providing a wider range of livestock interventions to protect livestock and livelihoods (ibid).

The introduction of the community based animal health system also created new livelihood strategies for the subset of the community that served as CAHWs and the subsequent levels of expertise- Animal Health Auxiliaries , Stockpersons, and supervisors, who were supported financially through incentives. However, during this study it was recognized that during severe drought the livelihoods of the CAHW's also come under threat, which undermine their ability to provide services, as they needed more time to secure their own food security. The program therefore had to be flexible and responsive to the needs of the CAHWs in order to maintain this service.

### *Eastern Ethiopia 1998; Re-stocking*

*Background to refugee/ returnee situation in Somali Regional National State (SRNS), eastern Ethiopia*

The Ogaden rangelands in south east Ethiopia are home to ethnic Somali pastoralists and agro-pastoralists, who are dependent on livestock as the basis of their livelihoods. Somali National Regional State comprises more than 20% of the country, covering 350,000km$^2$. The environment is harsh and the region suffers as a result of its isolation, lack of infrastructure and years of political marginalization by the Ethiopian government.

The Somali-Ethiopia border cuts through traditional clan territories and has little significance for either pastoralists or traders, but has played a major role in terms of regional conflict which has generated one of the worlds most intractable and severe refugee crises, with semi-permanent camps close to the border since 1988.

Escalation of the civil war in Northwest Somalia/Somaliland in the summer of 1988 drove tens of thousands of refugees across the border into Ethiopia. Most of these belonged to the Issaaq clan. Refugee camps were set up to provide them refuge. The victory of the Somali National Movement in early 1991 did not bring immediate peace and stability to northwest Somalia. Inter tribal conflict drown Gada bursi clan members across the border in February 1991, and two new camps were established. The Somali National Movement also sent Ethiopia Somali refugees, most associated with the Darood clan, back to Ethiopia, which led to the formation of a new camp in the spring of 1991. Drought in 1989 – 91 also drove local pastoralists and agro-pastoralists to the camps. A further influx of 90,000 refugees into existing camps occurred following conflict in Somaliland in November 1994. The vast majority of Ethiopian returnees were re-absorbed immediately by the local population, but a minority registered for assistance in

the camps and received a resettlement package, but awaited further assistance in the camps.

Since 1993 agencies have been trying to take a longer-term view of assistance, and have developed rehabilitation programmes comprising interlinked agriculture, livestock human health, education and water projects. A main aim of this work was the reintegration of Somali returnees from Djibouti and Somalia into the SNRS. By 1994 the total returnee population was estimated to represent 20-30% of the rural population.

The boundary between Ethiopia and Somalia is long and unguarded, and Ethiopia did not restrict incomers. People living along the border cross the border at will, so that the residents of the camps have continued to move freely between the camps and North West Somalia. Markets in the refugee areas have a wide range of goods on sale, many coming from abroad into Berbera and Somaliland. The area is a significant transnational trade route, with Hartisheikh (the site of refugee camps) being a major marketing center. The refugees, returnee's and local inhabitants of this region share the same Somali ethnicity and cultural traditions.

*Re-stocking – an overview*

Re-stocking is usually a post-emergency/ rehabilitation intervention focussing on pastoral households with substantial livestock losses, whereby an external agency buys livestock and distributes them to households identified by community based groups or relief committees according to established criteria.

Typically re-stocking aims to provide a sufficient number of animals to destitute pastoral households to ensure a return to pastoralism. This requires a definition of 'minimum herd size' for subsistence and the herd composition for a particular pastoral system[14]. Re-stocking projects vary widely and include provision of virtually any livestock type, either as a donation or using numerous forms of credit.

Recipients of livestock are likely to need additional assistance, for example, basic household items that they have been forced to sell during the emergency. Food assistance may be necessary until the livestock they receive become productive. In addition it is essential that the appropriate technical expertise and support from livestock professionals is in place, as the purchased animals must be checked for disease at the time of purchase and basic veterinary is required to ensure minimal losses due to disease.

Re-stocking works best when traditional re-stocking practices are understood and form the basis for project design. Given the requirement for local purchase, such projects can be easily corrupted by local traders increasing the price of stock in the market, or the unfair selection of beneficiaries and inappropriate choice of livestock. To overcome these potential difficulties requires a long process of community dialogue, which is most effective if the implementing agency has a long history of involvement in the area and good community relations.

[14] Minimum herd sizes are usually in the order of 30 sheep and goats and one donkey per household.

## Example 4 Provision of sheep and goats to Somali returnees in Ethiopia (based on Catley, 1999)

Returnee Ethiopian Somalis arriving home in Somali National Regional State were welcomed by their communities and according to Somali tradition, received support such as basic agricultural inputs, allocation of land and livestock. Livestock were essential for those families who wished to resume herding activities and rebuild assets. Despite the assistance which returnees received from relatives, it was evident many returnee families were still struggling to meet basic household food and income requirements. The longevity and scale of the refugee/ returnee problem had undermined traditional restocking mechanisms. In response to this problem in 1995 SCF investigated traditional methods of re-stocking used by Somalis. This revealed that goats and sheep were preferred for re-stocking to other livestock for a number of reasons, including:

- Their high fecundity and potential for rapid herd expansion.
- Young adult male animals, particularly sheep, could be sold or exchanged for rice and sold in order to buy other livestock such as cattle or camels. The rearing and sale of male sheep was a particularly important method of income generation.
- Goats produced more milk than sheep and so goat milk was consumed by the family especially children.
- The skins and dung of sheep could also be utilised.
- In terms of networks of reciprocity, sheep and goats were more likely to be provided in the form of a gift, while oxen for draught power or donkey for transport were commonly lent.

Traditional re-stocking practices also targeted particular beneficiaries, including female headed households, aged households and poor households who had lost livestock.

Based on this information, SCF designed and implemented a small-scale re-stocking project with 22 Somali agropastoral communities who had received returnees. The project provided six adult female sheep and/or goats to beneficiaries, who were selected during traditional community meetings, known as a *shir beeleed*. A system for redistributing offspring from the first beneficiaries to other needy families was designed; and assumed 50% of the offspring would go to 'second level' beneficiaries during the first year of the project. Veterinary care of livestock was arranged in partnership with the local Ministry of Agriculture veterinary staff and by training community based animal health workers. All stages of the restocking project were closely linked to traditional systems.

*Impact of re-stocking on the nutrition of children*

Baseline information was collected which included beneficiaries expectations of the project. By far the most common expectation was increased availability of milk to give to children. As a result assessments of the quantities of goat milk fed to children of different ages in relation to other foods, were incorporated into subsequent monitoring activities. A mid-term review of the project attempted to assess goat milk off-take and compare this with the nutritional requirements of children. These estimates were not based on consumption studies, but instead from qualitative interviews with project beneficiaries. In the dry season milk off-take per goat was reported to be approximately 0.5 cups per milking (300ml per day), whereas wet season milk off-take was reported to be 1 cup or 600 ml per day. In the preparation of a typical milk-maize porridge 1 cup (300ml) was used to prepare one porridge meal, and 3 to 4 porridge meals would be fed per day. These calculations represent rough estimates, as cows milk was also used in some meals and children of different ages tended to eat communally from a single bowl. The review calculated that on a single day in the wet season, goats milk could provide the child with approximately :

- 658 kcal (more than 50% of a two year olds RDA);
- 30.6g protein (127% of their RDA);
- 371ug vitamin A (148% of their RDA)
- 1205 mg calcium (267% of their RDA)

Catley (1999) notes that this type of assessment and calculation could be a first step towards making detailed links between the provision of goats to returnee households and benefits to the children in those

households. It is noted however that the measurement of variables such as milk off-take and human milk consumption is technically difficult, and not necessarily appropriate for routine monitoring.

In October 1997 SCF conducted a nutritional (anthropometric) survey of children under five years of age in five of the restocking sites in order to estimate the prevalence of acute malnutrition (wasting). The sample sizes were small; only 123 children from re-stocked households and 180 children from non-restocked households, but nevertheless indicated there was no significant difference in the prevalence of wasting in the two groups. While there are limited conclusions that can be drawn from the study, the suggested pattern is not surprising for two reasons; first women stated that milk was shared between re-stocked and non re-stocked households; and secondly the timing of the survey coincided with the end of the rainy season long which is not the period of nutritional stress and therefore high levels of wasting would not be expected[15].

# Essential principles of a livelihoods approach in complex emergencies

In reviewing these case-studies several essential principles in the application of a livelihoods approach in the context of conflict and crises emerge. These broadly relate to three areas; assessment and analyses; prioritising response strategies; and partnership, particularly the necessity of combining appropriate technical skills (public nutrition) and local knowledge in implementing programmes.

### *Assessment and analyses*

Analysis of livelihoods and nutritional risk are relevant to understanding both the immediate life-threatening risks to people, and threats to their future survival. Life-threatening nutritional risks include; a failure to meet immediate food needs; increased exposure to disease as a result of contaminated water (or food), lack of sanitation, inadequate shelter etc; and the increased susceptibility to disease associated with severe malnutrition or other debilitating diseases. These are the critical components of an emergency needs assessment and upheld by minimum standards of humanitarian response(The SPHERE Project 1998).

In order to assess the food security of households, several agencies have developed assessment methodologies (Boudreau 1998; MSF 2001). Although the precise objectives vary for different agencies, they do have several elements in common, for example they generally incorporate an analysis of the different sources of food and income (access); a review of coping strategies; and the stages or timing of applying different coping strategies(MSF Holland 1997). It is not universal however, to consider

[15] Among pastoralists the period of the year associated with nutritional stress and relatively higher rates of wasting is at the end of the dry season, when milk is generally unavailable, and the market price of cereals and other food stuffs are high (before harvests bring prices down).

food security in relation to the wider concept of livelihoods[16], nor to explicitly consider the socio-political dimensions of risk and vulnerability introduced as a direct result of conflict.

A preliminary framework for analysing livelihoods in conflict situations has been suggested in the earlier section on nutrition and livelihoods, which is based on the definition of livelihoods. More work is needed in developing and applying this framework, especially in relation to evaluating livelihood interventions (see next section on learning).

It is essential to explicitly incorporate analysis of the political economy of conflict, and its impact on livelihoods and the underlying causes of malnutrition. Such an analysis should reveal not only who is affected and why, but also how local or indeed regional power structures stand to benefit from emergency. This calls for an analysis of both winners and losers, as interventions should address the needs of the victims, without reinforcing or strengthening the systems that created the emergency in the first place. Tools for analysing the complexities of conflict and their implications for field based organizations implementing both relief and development have been developed and widely applied(Fisher et al. Year?). But these have not been generally incorporated within a livelihoods analysis, and there remains a need to develop analytical tools that could help us understand the ways in which people respond, adapt and even subvert the effects of violence on their lives, in relation to their livelihoods and the costs they incur by following particular survival strategies.

Local priorities and expectations will shape the success of any external intervention. Even direct nutrition interventions such as supplementary feeding will fail unless consideration is given to community views and preferences. As shown in the Eastern Ethiopia case-example, the expectations of more milk for children from the de-stocking project formed a central part of subsequent monitoring activities, as from the communities perspective the success of the project would in part be judged by increased availability of milk. In Southern Sudan, Holland showed the importance of monitoring not only output indicators but also patterns of utilization of livelihood resources, in order to evaluate how they translate into improved household food security and nutrition. For example, an intervention strategy that supports animal health through vaccination and treatment may indeed increase herd health and herd size, but unless the resources are tracked, it is unclear their impact on nutritional outcomes.

Monitoring can also reveal the potential negative side effects or risks associated with a given livelihood intervention, for example, the potential negative impact on nutrition of monopolising water sources for livelihood interventions, making less water available for washing, bathing, cooking and drinking.

This understanding of local perceptions and priorities needs to be balanced with the knowledge of specific known health or nutrition risks. For example, measles

[16] ICRC, CARE and Oxfam GB incorporate a form of livelihoods analysis into their emergency and development work(Mourey, 2000, Young et al. 2001) Frankenberger and Drinkwater 1999)

immunization and distribution of vitamin A supplements are absolute priorities in terms of saving lives in times of nutritional crisis, yet may not be recognized as such by local communities. Humanitarian agencies and professionals clearly have a responsibility to ensure these priorities are adhered to as part of a broader response strategy.

### *Prioritising response strategies*

As a matter of principle, external intervention in a nutritional crises should include a range of combined strategies to promote access to food and provide access to health care, while at the same time supporting and protecting livelihoods. In all three case-examples, the livestock interventions complemented a broader range of interventions, including the distribution of free food assistance, which was a critical aspect of food security.

More work on analytical frameworks is essential if needs are to be prioritised either according to their life-threatening risk, or their affect on livelihoods, or as is becoming increasingly popular in accordance with human rights. These frameworks need to be especially conscious of the financial, staff, and security constraints agencies face during conflict situations in both implementing an assessment and subsequent interventions. Allocating priorities is of course much easier said than done in a context where agencies must work in accordance with their mandates and demonstrated institutional competencies. Nevertheless the need for a range of combined strategies to address risk is widely recognized by humanitarian agencies, and generally promoted within agency guidelines and the minimum standards of humanitarian response. Given the context of an increasing proliferation of agencies working in protracted crises situations, prioritising and combining relief strategies is in large part reliant on effective coordination mechanisms. Although the Kenya case-example is restricted to emergency livestock interventions, the degree and level of coordination of multiple agencies and a wide array of interventions was unprecedented.

Analytical frameworks, for analysing the causes of malnutrition, vulnerability or livelihoods, need to make explicit the main components of interest. We have highlighted vulnerability, and how it is related to both malnutrition and livelihoods. This is important as an analysis of the causes of malnutrition is in danger of ignoring livelihoods altogether and overlooking how risk and vulnerability relates to conflict.

### *Partnership and advocacy; combining appropriate technical and local knowledge*

None of the interventions in the case-studies would have been possible without specific technical input from specialists, specialists not just in veterinarian science or agricultural economics, but also in participatory ways of working and community based interventions. A wide range of technical and social skills are essential to livelihood programming success and this includes the particular knowledge and skills represented by Public Nutrition. Both Public Nutrition and livelihoods approaches challenge the

barriers of sectoral viewpoints imposed by individual disciplinary training and focus, which has been termed 'academic tribalism' (Alexander 1997).

Within food security interventions generally, and the three case-examples, it has been a long held assumption that successful interventions will produce tangible benefits for human health and nutrition. Despite this underlying premise, monitoring and evaluation of such programmes rarely extend beyond an assessment of efficiency (numbers of cattle vaccinated etc). In all three of the case-examples, human nutrition benefits were acknowledged as general project objectives, but were not linked explicitly on an operational or evaluative level.

As a starting point, we suggest that an understanding of the types and degree of malnutrition in the project area, together with an analysis of the underlying causes is essential for judging the potential impact of a project on nutrition. Furthermore, this knowledge is essential in recognizing those factors that will restrict or limit programme impact on nutrition. This type of knowledge and understanding does not require more nutritionists, but it does necessitate a Public Nutrition approach, whereby nutrition is every body's business, and that all concerned have a basic understanding of the core nutrition principles[17]. The reverse is also true, a Public Nutrition approach requires nutritionists to consult and work collaboratively with a wide range of stakeholders and technical experts. Creating a wider awareness of the role and importance of nutrition requires job related training on a vast scale, and advocacy among donors and other supporters of livelihood interventions. Basing training activities within regional institutions will help create greater regional ownership and responsibility for livelihood approaches in emergencies.

The success of all of the livelihood case-examples described earlier was in part dependent on a detailed local ethnographic knowledge and understanding. In Ethiopia this was generated by a specific study of traditional re-stocking mechanisms, in southern Sudan by a long history of working in the area and knowledge of pastoral systems; and in Kenya by working with local organizations, especially where the external agency lacked experience of working in an area.

## Learning as a way forward… ..a research agenda for the international humanitarian community

There is always room for improvement, as evident from the three case examples, which raise a myriad of ideas and questions about the potential for livelihood approaches in reducing nutritional risk, and producing tangible nutritional benefits. Some of these are described below.

[17] Tufts University in conjunction with the World Food Programme have designed Food and Nutrition training modules that are targeted at non-technical national and international staff members.

Improved tools and frameworks are needed for monitoring and evaluation of nutritional impact of programmes that combine both qualitative and quantitative approaches. This requires a substantive shift from the current focus of analytical tools on emergency needs assessment, to analytical tools and learning in relation to monitoring the nutritional impact of livelihood interventions. Although the basic indicators for monitoring and impact assessment of nutrition related factors are well known, typically operational constraints and donor reporting requirements limit agencies interest or capacity (at least in the case of livestock agencies in these case-studies) to look more deeply at nutritional impact. The challenge therefore is to develop usable methods for these particularly difficult contexts.

A part of this analysis must involve a review of the literature to establish as far as possible the nutritional characteristics associated with different livelihoods in specific contexts. From the literature on famine mortality and malnutrition it should be possible to broadly assess the relative risk of mortality among different livelihood systems in varying contexts of food insecurity and famine. Local studies are needed to show how different livelihood strategies affect nutrition during periods of crisis, relative to periods of greater stability, and how livelihood interventions impact these.

Further work is needed on the effects of different livelihood initiatives on particular aspects of the nutritional quality of the diet, including micronutrients (particularly, vitamin A, vitamin C and iron) and macronutrients (fat and protein) (in relation to expected dietary deficiencies).

The distribution of free food assistance is usually intended to meet immediate requirements for food, but nevertheless studies have shown it contributes significantly to the resource base of the household, as a portion is either traded or exchanged to obtain other essentials(Reed and Habicht 1998), or alternatively to fulfil social obligations. In Turkana, beneficiaries of free food expressed a preference for combined intervention strategies, that included both food and livelihood support(Jaspars et al. 1997). Questions of how best to enhance the complementarities of food aid based interventions and other livelihood initiatives are central to maximising the nutritional benefits. Also of concern, would be the affects of food aid on local food production, market supply and prices of foodstuffs. There is a widely held assumption that emergency food aid, especially in protracted emergencies, promotes dependency and disrupts local market demand and supply; how far are these assumptions valid and what are the nutritional implications?

An entire set of issues ignored in this paper is the institutional barriers to integrating livelihood interventions into “routine” emergency response programs, which obviously need further consideration.

Finally, an issue that has to be acknowledged are the potential difficulties that arise from attempts to combine both humanitarian and more developmentalist principles within one programme. For example, how far can we take community based approaches within a humanitarian principles framework that emphasizes neutrality and values speed of

operations? Striking a balance here will promote more effective programmes, but also will begin to break down the 'Berlin Wall' between relief and development practitioners.

## Conclusions

As the earlier papers in this symposium have illustrated, nutrition in emergencies as a sector has emerged as a coherent professional field with nascent academic support. Nutrition programmes have been shown to be central in the humanitarian response to situations of crisis and conflict. Furthermore, there is evidence that nutrition in emergencies has developed and consolidated as a professional sector, but there is a need now for a broadening of the sector to extend the Public Nutrition approach into other programmes which impact on malnutrition.

The first part of this paper describes how conceptually nutrition is incorporated within the livelihoods analytical framework (as a resource, a goal and measurable outcome). The nutrition of households represents a vital resource upon which livelihoods are based, which is in turn maintained or enhanced by the livelihood strategies that households adopt. Nutritional considerations may be explicitly incorporated as a livelihood goal by households, which will shape the livelihood strategies that people adopt. In programming terms, where nutritional objectives are central to the project, nutrition is a key element for monitoring and evaluation. A livelihoods analysis, that incorporates an assessment of vulnerability related to the conflict, can contribute much to our understanding of the causes of malnutrition and barriers to its improvement.

The case-studies illustrate that we have moved well beyond analytical frameworks to the practical implementation of livelihood initiatives that impact on nutrition. If a programme impact on nutrition is assumed and is incorporated as a project goal, then it is necessary to evaluate the range of direct and indirect pathways that a programme impacts on nutrition in order to assess its potential value as a means to improving and protecting nutrition. One of the tools for this task is the conceptual framework of causes of malnutrition. An essential step needed to further this analysis is partnership with an increasing range of stakeholders, which requires the nutrition sector to continue to boldly reach out to other sectors to show how these nutritional benefits may be both analysed and improved upon.

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