

# **HIV and AIDS in Emergency Situations**

## **Synthesis Report**

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\* Disclaimer: The views presented in this paper are those of the authors and do not necessarily represent the views of the World Food Programme which commissioned it, or those of UNAIDS, which funded it

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## List of acronyms

AIDS	Acquired Immunodeficiency Syndrome
AMPATH	Academic Model for the Prevention and Treatment of HIV/AIDS (Kenya)
ANASO	Angolan Network of AIDS Service Organisations
ANP+	Assam Network of Positive People
ART	Antiretroviral Treatment
BSS	Behavioural Surveillance Survey
CAR	Central African Republic
CRED	Centre for Research on the Epidemiology of Disasters
CSW	Commercial Sex Worker
DFID	Department for International Development
DRC	Democratic Republic of Congo
FACA	Central African Armed Forces
FANR	SADC Food, Agriculture and Natural Resources Directorate
FANTA	Food and Nutrition Technical Assistance
FAO	UN Food and Agriculture Organization
FGD	Focus Group Discussion
FHI	Family Health International
FOMUC	Multinational Force in the Central African Republic
FSW	Female Sex Worker
HAI	HelpAge International
HBC	Home-Based Care
HIV	Human Immunodeficiency Virus
HPG	ODI Humanitarian Policy Group
IASC	Inter-Agency Standing Committee
ICC	International Criminal Court
IDU	Injecting Drug User
IDP	Internally Displaced Person
IEC	Information, Education and Communication
IFRC	International Federation of Red Cross and Red Crescent Societies
IHAA	International HIV/AIDS Alliance
IOM	International Organization for Migration
IRC	International Rescue Committee
KAP	Knowledge, Attitudes, Practices
MDHR	Movement for Rural Development (Haiti)
MINUSTAH	UN Stabilization Mission in Haiti
MISP	Minimum Initial Services Package
MOH	Ministry of Health
MSF	Médecins San Frontières
MSM	Men Who Have Sex With Men
MTCT	Mother-to-Child Transmission
NGO	Non-Governmental Organisation
NSACP	National STD and AIDS Control Programme (Sri Lanka)
NVF	New Variant Famine
OCHA	Office for the Coordination of Humanitarian Affairs
ODI	Overseas Development Institute
OI	Opportunistic Infection
OIOS	Office of Internal Oversight Services
OVC	Orphans and Vulnerable Children
PEP	Post-Exposure Prophylaxis
PLHIV	People Living With HIV
PMTCT	Prevention of Mother-to-Child Transmission
SADC	Southern African Development Community

SGBV	Sexual and Gender-Based Violence
STI	Sexually Transmitted Infection
TANGO	Technical Assistance to NGOs
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDESA	UN Department of Economic and Social Affairs
UNDP	UN Development Program
UNICEF	UN Children's Fund
UNFPA	UN Population Fund
UNHCR	UN High Commission for Refugees
VCT	Voluntary Counselling and Testing
WHO	World Health Organization
WFP	World Food Programme

## Executive summary

### Introduction

HIV in emergency situations is often addressed as one generic set of issues. However, available evidence suggests that the impact of different types of emergencies (conflicts, rapid-onset natural disasters and slow-onset natural disasters) will be different, as will the required humanitarian response. The objectives of this study were to:

- Review existing literature on the effects of the three different kinds of emergencies on HIV and AIDS;
- Identify gaps in the existing literature and address them in five field-based case studies – Haiti, Sri Lanka, the Central African Republic (CAR), Mozambique and Kenya;<sup>1</sup>
- Develop a conceptual framework and typology from which more detailed, nuanced information and guidance for humanitarian responses to HIV in different types of emergencies can flow; and
- Provide suggestions for further areas of research.

The paper suggests a framework for conceptualising issues around HIV in emergencies, following three broad categories: i) the impact of emergencies on the risk of HIV transmission; ii) the impact of emergencies on people's resilience and ability to cope with the impacts of HIV and AIDS on their livelihoods and, vice versa, the effect of HIV and AIDS-related illness and death on people's ability to cope with emergencies; and iii) the effect of emergencies on health and other HIV-related services. The focus of the paper is on the evidence base relating to HIV in emergencies, rather than responses by international aid agencies. Findings identify some interesting trends, differing across the types of emergency settings, but epidemiological data were not the focus of the research. With regard to vulnerabilities, this research looked mainly at the impact of different emergencies on HIV risk behaviour and not at confirmed new HIV infections, which would require a different research methodology.

### Variables affecting HIV in emergencies and vulnerable groups

The dynamics of HIV in humanitarian emergencies are complex and depend on many factors including pre-emergency HIV prevalence, the duration of the emergency, and the infrastructure and service environment prior to the emergency. Pre-existing knowledge and awareness around HIV are also likely to affecting the ways in which the emergency impacts on HIV.

It is widely accepted that some populations are more vulnerable to HIV infection, and this may become heightened during emergency situations. Women, for instance are biologically, socially and economically more at risk than men in terms of contracting HIV; they also often face a double burden of caring for the sick and ensuring survival for the families as a whole. In emergency situations, their vulnerabilities are amplified, and they face increasing amounts of sexual and gender-based violence (SGBV).

### Impact of emergencies on risk of HIV transmission

#### Conflict/post-conflict and complex emergencies

**SGBV** often increases during conflicts. Complex social factors associated with armed conflict, such as the use of SGBV, especially rape, as a 'weapon of war', displacement, disintegration of families and communities, changes in stable sexual relationships and the social norms governing sexual

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<sup>1</sup> Country reports are available online at [www.aidsandemergencies.org](http://www.aidsandemergencies.org) and [www.odi.org.uk](http://www.odi.org.uk)

behaviour and fatalism among soldiers and civilians in a war situation, may all increase vulnerability to HIV.

While rape clearly increases an individual's risk of contracting HIV, a recent systematic review of HIV prevalence in seven conflict-affected countries in sub-Saharan Africa (Spiegel et al 2007) found insufficient evidence that displacement and wide-scale rape increased HIV prevalence at a population level. However, more research is needed to assess how various accompanying circumstances and factors, such as mobility and interaction among different population groups, impact on vulnerabilities to HIV infection caused by SGBV.

The use of **sex as a survival strategy** and bargaining tool, with its attendant HIV risk, is also well recognised in conflicts, particularly where forced displacement has occurred. A World Health Organization (WHO) study in Eastern and Central Sudan (WHO, 2004) stated that 27% of single mothers had become sex workers to earn a living. The fieldwork in CAR for this present study similarly found that commercial sex work is becoming more common as a result of the deteriorating economic situation, pushing young women and girls into behaviours that put them at risk of acquiring HIV.

Limited evidence in both the literature and case studies was found on vulnerability to contracting HIV in conflict settings through **medical equipment and blood transfusions**. The majority of literature on vulnerability through injecting drug use comes from **mid-/low-prevalence** settings such as Afghanistan and Pakistan.

### **Rapid-onset natural disasters**

As in conflict settings, destitution, displacement and loss of livelihoods and income as a result of rapid-onset disasters place populations, and in particular women and girls, at risk of **sexual exploitation and of having to have sex** in order to gain access to basic needs such as food, water and security. In both the Haiti and Mozambique case studies, although there was no evidence that SGBV was a major problem in shelters or had increased as a result of the natural disaster, **consensual as well as transactional sex increased, the latter** because of the extreme vulnerability of many people and the shortage of goods distributed. These increases in sexual relationships lead to an increased risk of HIV transmission, especially where condoms are not available.

**Existing sex work patterns were also seen to change** as a result of rapid-onset natural disasters: in Mozambique, there was an increase in numbers of sex workers coming from outside Caia, attracted by the growing number of humanitarian workers and transporters. In tsunami-affected Sri Lanka, respondents reported temporary reduced levels of sex work (both female and male) in some cases, and increases in others, depending on location and time elapsed since the tsunami.

Contrary to findings from the conflict-affected countries, anecdotal evidence suggests that **blood for transfusions** was not routinely screened in tsunami-affected parts of Indonesia. The fieldwork in Sri Lanka suggests that the level of vulnerability owing to blood transfusions and medical equipment tends to depend on the **state of the health system** and mechanisms for HIV screening of blood donations **prior to the emergency**. Sri Lanka, for example, had a well-functioning blood screening programme prior to the tsunami and no serious problems have been reported with this as a result of the tsunami. A similar situation was observed in Haiti.

### **Slow-onset natural disasters**

When faced with limited livelihood opportunities, many women and girls are forced to turn to **commercial and transactional sex**. This in turn leads to increased risk of HIV exposure, as well as chances of passing on the infection more broadly. As a result of drought, populations are often forced to move in search of food, water, shelter and relief services. **Mobility and/or displacement**

create further vulnerabilities. Increased migration as a result of droughts opens up the possibility of more sexual encounters and abuse.

In northern Kenya and southern Mozambique the effects of drought have led many young women to turn to **sex work as a means for survival**<sup>2</sup>. Commercial sex workers also become increasingly vulnerable since with increasing competition for clients, they are less likely to use condoms; similarly, with fewer local clients available, sex workers move to the main highways and peri-urban settlements to service truck drivers. This interaction with a high-risk mobile population group, combined with a severe erosion of livelihoods, dramatically increases vulnerability to HIV.

## Impact of emergencies on resilience and coping

In *all emergency settings*, **family, friend and neighbour networks are key coping strategies** ('social capital'). However, for PLHIV, these are often threatened by stigma and discrimination. Hence resilience levels and the ability to recover are severely affected.

A key coping strategy especially during *conflicts and slow-onset natural disasters* is to **reduce food consumption levels, to reduce dietary diversity and/or to start relying on wild foods**. This has implications for HIV, as lack of food can result in faster disease progression towards AIDS.

Resorting to **different forms of transactional sex was a common coping strategy for women in all emergency contexts**. **Patterns** of commercial sex work were also seen to change as a consequence especially of flooding and slow-onset natural disaster.

**Migration** is a key coping strategy during *all kinds of emergencies*, resulting in increased vulnerabilities. **Migrant remittances** are key for those left behind; this is especially the case in long-term humanitarian situations such as Haiti, Sri Lanka and southern Mozambique.

In *rapid-onset natural disasters* (Haiti, Sri Lanka, Mozambique) **official shelters** are a key coping strategy, for both PLHIV and others. While there is **provision of food and water/sanitary facilities, often they are inadequate**.

It appears that it is more difficult for PLHIV **to recover** in all types of emergency, but particularly in **slow-onset natural disasters**. This trend continues **the longer the duration of the emergency**. The inability to recover is linked to loss of assets and sickness but can also be linked to the stigma associated with being HIV positive and the resulting loss of social capital, which has been identified as a crucial coping strategy during emergencies and a key factor in the recovery process.

## Disruption to health and other basic services

### Conflict/post-conflict and complex emergencies

Findings show that access to **prevention** services in conflict/post-conflict settings is extremely limited. In terms of **treatment and care**, conflict-affected communities have, until recently, tended to be excluded from international discourse on, and funding for, AIDS care and treatment interventions. This was mainly because of a perception that facilitating access to antiretroviral treatment (ART) requires a stable health infrastructure. However, refugees often live for years in relatively stable settings in their host countries and many consider the potential for an increase of ART resistance by stopping and restarting therapy in a controlled fashion not to be more of a risk

<sup>2</sup> Similar observations on the direct relationship between food insecurity and increased transactional – and often unprotected – sex have also been made in Swaziland and Botswana (see Weiser, 2007) and Malawi (see Bryceson, various)

for conflict-affected populations than for other populations living in resource-poor settings. Findings from MSF's three-year AIDS treatment and care programme in Bukavu, DRC, support this view. This suggests that comprehensive care, including ART, in conflict settings can be feasible and effective. While it is acknowledged that episodes of insecurity can destabilise ART programmes, putting patients at increased risk of ART interruption and drug resistance, it has been argued that a managed treatment interruption contingency plan can minimise these risks. The Haiti case study supports this view that **ART is possible in situations of conflict and political violence** and that ART adherence does not necessarily need to be affected by political instability and violence.

**Other basic services** are also affected by conflict. Deteriorating water and sanitation services in CAR, for instance, have made the population more vulnerable to diseases, including diarrhoea, acute respiratory infections and parasitic illnesses.

### **Rapid-onset natural disaster**

The case studies in Mozambique and Haiti found that the flooding *per se* had little impact on **health service provision**. In Mozambique, the majority of health care during the 2006 flooding was provided by existing local health facilities and condoms were available in health centres after an initial shortage. There was limited disruption of care to PLHIV in Mozambique because there was already an extremely low level of service provision to the pre-displaced communities and those who were on ART were already living near the district centre, where HIV treatment is focused, and were not displaced. The few displaced people on ART were able to continue treatment because of the efforts of health workers and activists.

In Sri Lanka, the tsunami washed away stocks of drugs and medical equipment, damaged infrastructure and affected health care personnel, but the provision of general health services continued, primarily because of a **well-established health service prior to the emergency**. In this low-prevalence setting, very few people on ART were affected by the tsunami and it was possible to continue their treatment without any disruption. A review of the impact of the tsunami on PLHIV in Indonesia, Sri Lanka, Thailand and India found that the majority of persons interviewed **became aware of their status as a result of the tsunami and the health services that came as part of the humanitarian response**.

### **Slow-onset natural disaster**

Alongside decades of drought, food shortages and famines, most countries in east and southern Africa have been **facing constrained institutional capacity owing to inadequate financial, human and technological resources and economically induced migration of professionals**. In the service-oriented sectors, deaths caused by AIDS reduce the quality and quantity of services through the direct loss of skills and institutional memory. These different layers of crises also heighten vulnerability to contracting HIV.

Findings from the case studies show that as a result of emergency situations and resulting food insecurity, **ART adherence is often a problem**. Furthermore, networks, drawn on as a means of coping or survival and used also to provide care for the sick, begin to disintegrate. In many countries, **HBC** programmes are also disrupted during emergencies. The northern Kenya case study found that even major health centres there suffer from **inadequate staffing levels and lack of essential equipment, supplies and medicine**. **Non-health-related services** are also affected: communal dams and wells for livestock and homestead use have dried up.

## Conclusion

The conclusion highlights a number of key findings, in no order of importance. First, this study shows that **emergencies do not disrupt ART supplies as much as is often feared**. This is because of strong contingency planning on the part of treatment providers as well as initiative shown by people on treatment to ensure they do not run out of drugs. However, limited disruption can also be explained by the fact that there are still relatively few people on ART in these emergency settings. If and when increased numbers of people go onto ART, the logistical challenges that this implies may lead to higher default rates.

Even **when ART supplies are not disrupted, adherence can be severely affected** by emergency-related circumstances, especially **lack of food**, which has been reported by respondents as one of the key challenges for ART adherence. Patients on ARVs are often unable to continue their treatment because the side effects are too strong when they do not have sufficient food. In rapid-onset disasters, short-term food assistance is usually swiftly forthcoming, but this is often not the case in drought emergencies, where assistance often comes too late, is not on the necessary scale and/or does not have the adequate targeting mechanisms. Similar challenges occur in some conflict settings.

**Increased risks of transactional sex as a coping strategy during all kinds of emergencies** emerged strongly from both the literature review and the case studies. This was probably to be expected, but the extent to which it was stressed as an increased risk factor in conflict settings as well as in rapid- and, especially, slow-onset natural disasters in the case studies was perhaps surprising. When compared with commercial sex workers, women who engage in less formalised and more occasional transactional sex are often less able to negotiate safe sex.<sup>3</sup> The importance of transactional sex as a negative coping strategy has been underestimated and warrants both further research and greater policy attention. The combination of increased transactional sex and an influx of mobile groups, such as truck drivers and humanitarian workers (in slow- and rapid-onset natural disasters) and military personnel (conflicts), caused rising vulnerabilities to contracting HIV.

A resounding theme was the **lack of availability and access to condoms**. This was not just as a result of the emergency (in some cases, the emergency resulted in more free condoms being available), but reflected a situation in the country prior to the emergency. The case studies showed that condoms were particularly critical in rapid-onset natural disasters, where consensual sex in shelters was seen to increase.

The case studies found a **relative neglect** of the particular issues relating to those groups most at risk from the HIV epidemic, notably **men who have sex with men, female sex workers and intravenous drug users**.

While the case studies **could not find evidence of an increase in stigmatisation** as a result of the different types of emergencies, it emerges that **already existing stigma has a larger negative impact during emergencies, especially in slow-onset natural disasters**, where the loss of social capital and exclusion from community support mechanisms are key challenges for PLHIV. In rapid-onset natural disasters, stigma often leads to PLHIV not disclosing their status and therefore sometimes not being able to access humanitarian services that reflect their specific needs.

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<sup>3</sup> Research in Malawi (see Bryceson and Fonseca, 2006) has shown that sex workers 'have a vested professional interest in adopting safe sex practices and can impose safe sex as a contractual condition of their service to their clients', but 'the diffuse, haphazard nature of transactional sex in Malawi's rural areas makes safe sex practices far more difficult to promote'.

A further key finding, particularly from Sri Lanka, is the extent to which **HIV-related prevention and treatment came 'on the back of' the emergency response**. This highlights the importance of increased collaboration between actors in the humanitarian and HIV response.

**Duration of an emergency is crucial to assessing how PLHIV cope:** the Kenyan case study shows that PLHIV are more affected, compared with non-PLHIV, the longer the emergency situation persists. Their ability to recover becomes more severely limited and they tend to remain in a 'micro-emergency' even when other parts of the population start to rebuild their livelihoods.

The case studies have shown that it is vital not just to look at certain population groups or types of interventions, but also to **understand the dynamics and the shifting patterns of vulnerabilities and coping mechanisms caused by different emergencies**. Our framework (see Table 1) showed both similarities and differences in the nature of emergencies and in their impacts on vulnerability, ability to cope and service provision. Despite any similarities, the translation of these impacts into new HIV infections depends largely on prevalence settings, mobility and the types of populations interacted with. This re-emphasises the need for a **contextual analysis** of a humanitarian crisis situation with regard to its HIV needs and implications, **instead of the application of a standard set of interventions**. Although normative guidance is required to help mainstream the issue of HIV into the humanitarian response process, this study shows that one cannot assume that the same priorities and needs occur in the same way across all emergency types, prevalence settings and political and cultural contexts.

# 1. Introduction

## 1.1 Background

The HIV epidemic is a long-term global crisis, with impacts that will be felt for decades to come. A total of 33 million people were living with HIV in 2007. Sub-Saharan Africa continues to bear the brunt of the global epidemic. More than two-thirds (68%) of all adults and 90% of children with HIV globally live in sub-Saharan Africa, with its epicentre in southern Africa. More than three out of four deaths (76%) owing to AIDS in 2007 occurred in sub-Saharan Africa – 1.6 million of the global total of 2.1 million. Overall, sub-Saharan Africa is home to an estimated 22.5 million adults and children infected with HIV (UNAIDS 2008).

HIV is dynamic and continually evolving, both in its structure, mutating into different strains, and in its effects and impacts. The nature and effects of HIV vary according to region and country; policy and programmatic responses need to take this into account. HIV and AIDS pose tremendous multi-sectoral challenges under stable political and environmental circumstances. These challenges are significantly increased under the strain of humanitarian crises.

Conflicts and natural disasters often bring with them displacement, increased food insecurity, destruction of livelihoods and resulting poverty and disruptions to HIV-related treatment, care and support services. As such, disasters can increase the vulnerability of affected populations to HIV as well as disrupt care and treatment for those already living with the virus. The negative impact of AIDS on the livelihoods of those affected can also increase the severity of disasters, leaving people less able to cope. Emergencies may throw up particular issues relating to stigma, such as resentment about perceived preferential treatment with regard to relief for those who are chronically ill.

HIV in emergency situations is often addressed as a generic set of issues. However, available evidence on the epidemiology of HIV in emergencies suggests that the impact of different types of emergencies (conflict/post-conflict, natural disasters, rapid-onset and slow-onset, long-/short-term duration, high/low prevalence) on PLHIV will be different, as will the required humanitarian response and its integration of HIV concerns.

The current study attempts to address this gap, reviewing existing evidence (see Samuels and Proudlock, 2007) and analysing field research in five disaster contexts to explore how different types of emergency affect risk behaviour with regard to HIV infection and the delivery of HIV-related prevention, treatment and care and impact mitigation programmes and services. Case studies were conducted in Haiti, Sri Lanka, the Central African Republic (CAR), Mozambique and Kenya.<sup>4</sup>

The objectives of the study are to:

- Review the existing literature on the effects of different kinds of emergencies on HIV and AIDS;
- Identify gaps in the existing literature and address them in five field-based case studies;
- Develop a conceptual framework and typology from which more detailed, nuanced information and guidance for humanitarian responses to HIV in different types of emergencies can flow; and
- Provide suggestions for further areas of research.

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<sup>4</sup> Full reports are available online at [www.aidsandemergencies.org](http://www.aidsandemergencies.org) and [www.odi.org.uk](http://www.odi.org.uk).

The paper suggests a framework for conceptualising issues around HIV in emergencies, taking into account a number of variables that are likely to influence the affects of emergencies on HIV. These variables include: type of emergency; length of emergency; breadth of emergency – whether it is localised or spread throughout the country or across countries; prevalence in the country in which the emergency is occurring and whether it is a generalised or concentrated epidemic; pre-existing infrastructure and service environment; levels of displacement and mobility; and pre-existing gender inequalities.

### **Box 1: Country case study contexts**

**Sri Lanka** has HIV prevalence of less than 0.1% of the general population and a strong health service, with universal access to free health care. Within this context, HIV has not been a priority in the humanitarian response to the tsunami or the continuing conflict; risks of increased transmission in the disaster context were low. There are, however, concerns relating to SGBV and transactional sex, particularly in camps for people displaced by conflict and the tsunami. An action plan for responding to HIV in emergencies has been drafted by government and UN agencies but remains largely unimplemented.

In the **Central African Republic**, continuing conflict and state fragility are combined with high rates of HIV, creating risks of increased transmission. However, steps towards a settlement of the conflict present opportunities for renewed efforts to tackle the HIV epidemic. Particular concerns relate to widespread sexual violence and rape, high HIV prevalence among armed forces and the collapse of health services in conflict-affected areas. Aid agencies are making attempts to integrate concerns around HIV into responses, e.g. in the provision of post-exposure prophylaxis (PEP) kits as a response to sexual violence, but often HIV-related activities remain unfunded.

A study in **Turkana, northern Kenya**, focused on the interaction between chronic drought and HIV and AIDS. Key vulnerabilities to increased HIV infection include migration to peri-urban areas, where prevalence is higher, and increases in transactional sex. Stigma relating to HIV and AIDS remains a major challenge and exclude people from critical community support systems during times of drought, hence negatively affecting their ability to recover. PLHIV face difficult challenges in maintaining antiretroviral treatment (ART) and ensuring adequate nutrition during times of drought.

**Haiti** has a HIV prevalence of 2.2% (the highest outside Africa) and has been hit by multiple overlapping crises relating to political instability, conflict and natural disasters. Displacement relating to flooding had led to risks of transmission relating to higher numbers of sexual partners and increased levels of transactional sex in temporary shelters. Perhaps surprisingly, those PLHIV on ART were largely able to maintain their treatment during crises. There was little awareness among organisations involved in emergency response of the need to consider HIV related vulnerabilities.

**Mozambique** has one of the highest and fastest-growing HIV epidemics in the world, is still recovering from conflict and is prone to cyclones, drought and flooding. Recent government emergency responses to flooding have been praised for being relatively well prepared and efficient, but there is a general acceptance that HIV issues were insufficiently integrated. There was little coordination between humanitarian and HIV actors, limited condom provision for displaced populations and limited or late involvement of HIV-specific stakeholders. Drought was perceived to affect adherence to ART, relating primarily to lack of access to food. The most striking finding was the substantial increase in transactional sex during and after emergencies.

## **1.2 Methodology and existing data and information**

The first phase of this study consisted of a literature review drawing on published and grey literature, which was discussed at a workshop in September 2007. Field-based qualitative research was then carried out in the above-mentioned five countries. These emergency contexts were selected purposively to provide a range of emergency types (conflict, rapid- and slow-onset disasters, geographical spread and high and low levels of HIV prevalence). In each case study, international and national researchers worked together over a two-week period carrying out interviews and focus group discussions (FGDs) with government and aid agency staff, community groups and PLHIV affected by the disaster. A desk-based review of evidence relating to HIV and AIDS in rapid-onset emergencies available within the International Organization for Migration (IOM)

and the International Federation of Red Cross and Red Crescent Societies (IFRC) was also carried out (for the overview document see [www.aidsandemergencies.org](http://www.aidsandemergencies.org)). This synthesis report pulls together the information and findings from the seven other reports. The focus of the paper is on the evidence base relating to HIV in emergencies, rather than responses by international aid agencies. Findings identify some interesting trends, differing across the types of emergency settings, but epidemiological data were not the focus of the research. With regard to vulnerabilities, this research looked mainly at the impact of different emergencies on HIV risk behaviour and not at confirmed new HIV infections, which would require a different research methodology.

The level of information available in the literature review and case studies varied widely. There is a comparatively rich literature on HIV and conflict/post-conflict situations and in relation to drought, particularly in southern Africa, but much less information on rapid-onset disasters and on HIV and emergencies in countries with low HIV prevalence rates. Often, the two communities of knowledge (those working and writing on HIV and AIDS and those working and writing in relation to disasters) have remained largely separate, even in countries severely affected by HIV and disasters. For instance, in Mozambique there is a rich evidence base on HIV, and much has been written on the effects of recent disasters, notably floods, but there is very little information on HIV in relation to floods.

The lack of reliable data in emergency situations is a common problem that is far from unique to the issue of HIV. Part of the art of humanitarian action is making decisions in the face of limited information. As in other sectors, however, more could be done, particularly in the context of emergency preparedness and contingency planning, to think through the particular issues relating to HIV and AIDS in emergencies. This could involve carrying out risk assessments which, among other things, might identify factors that could increase people's vulnerability and susceptibility to HIV and the impact that emergencies could have on PLHIV, those affected and other vulnerable populations. These assessments would also identify possible responses to minimise risks. There is also a need to see ongoing data collection within an emergency context relating to HIV prevalence, levels of gender-based violence and other factors that impact on risks of transmission and the situation of PLHIV. Sharing of information is crucial and mechanisms for documenting learning are currently lacking.

### **1.3 Layout of the report**

Section 2 explores some of the variables affecting impact, focusing on prevalence and vulnerable populations. Sections 3–5 focus on HIV in relation to different types of emergencies and Section 6 concludes.

For each broad emergency type (conflict and complex emergencies; rapid-onset natural disasters; and slow-onset natural disasters), the impact of emergencies on HIV and the impact of HIV on emergencies are broadly categorised into three areas:

1. The impact of emergencies on the risk of HIV transmission (Section 3);
2. The impact of emergencies on people's resilience and ability to cope with the impacts of HIV and AIDS on their livelihoods and the impact of HIV- and AIDS-related illness and death on people's ability to cope with emergencies (Section 4); and
3. The effect of emergencies on health and other HIV-related services (Section 5).

Where possible (this is limited by existing data), findings are divided into high-prevalence and mid-/low-prevalence countries. Generally, there are more data from high-prevalence settings affected by different types of emergencies than from mid-/low-prevalence areas. Under slow-onset natural disasters, only data on high-prevalence settings in Africa is presented, as this is where the intersection between HIV and slow-onset natural disaster, or drought, has been studied.

The focus of this study is on the evidence base relating to HIV in emergencies, rather than responses of international aid agencies to emergencies and HIV. The literature review and the

case studies focused on the evidence and situation analysis. Findings from the literature review and interviews with IOM and IFRC are interspersed with key findings from the five case studies.

## **2. Variables affecting HIV in emergencies**

The dynamics of HIV in humanitarian situations are complex and depend on many countervailing and interacting factors. These factors include pre-emergency HIV prevalence as well as prevalence among groups of combatants (in conflict/post-conflict settings). The duration of the emergency is also likely to have an impact, as could the levels of population displacement and mobility. The effects of the emergency on health services are also likely to be impacted by the infrastructure and service environment in existence prior to the emergency; similarly, pre-existing knowledge and awareness around HIV prevention and transmission is also likely to be a variable affecting the ways in which the emergency impacts on HIV.

### **2.1 HIV-related variables**

The effects and impacts of HIV vary according to whether the epidemic is generalised or concentrated. In generalised epidemics, the population as a whole is affected, there is a high likelihood of infection, and transmission is mostly heterosexual. In concentrated epidemics, HIV is focused among key populations, including female sex workers (FSWs), injecting drug users (IDUs) and men who have sex with men (MSM). An epidemic is considered generalised when adult prevalence (based mostly on surveillance among pregnant women attending antenatal clinics) exceeds 1% (UNAIDS 2006a).<sup>5</sup> Within generalised epidemics there are also particularly vulnerable groups, e.g. sex workers, women and mobile populations (such as migrants, soldiers, truck drivers, and pastoralists).

The nature of epidemics change over time, and one country can have a number of different epidemics – concurrent or successive – as well as a range of regional variations in HIV prevalence. Countries with low HIV prevalence (or a “concentrated epidemic”) have a different set of concerns and challenges regarding their response to a potential HIV epidemic compared with those with high prevalence (or a “generalised epidemic”). Prevention of future HIV infections is likely to be a particular concern in low-prevalence countries; a greater concern in high prevalence countries involves care, support and treatment for those already affected (Brown et al 2001).

Understanding how prevalence varies is crucial to assessing the impact of emergency situations. In a country with high prevalence, for instance, the health system may already be overburdened and resources may be scarce. Alternatively, services for PLHIV may already be in existence and relatively structured. In a low-prevalence setting, on the other hand, health services may not be geared towards HIV and AIDS and therefore lack a HIV focus when a disaster strikes.

Another important pre-emergency variable that needs to be taken into account involves levels of health infrastructure and other HIV-related services for treatment and care. Numbers of people already on ART, levels of knowledge about HIV, people’s access to health services and coverage of support services such as home-based care (HBC) are all clearly important in framing how humanitarian actors respond to HIV in emergencies.

### **2.2 Type, timescale and breadth of emergency**

Emergencies may be a result of conflict, either of short duration or protracted; they may be a result of acute natural disasters, such as earthquakes, floods or tsunamis, or recurring ones, such as

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<sup>5</sup> For countries with low-level or concentrated epidemics, HIV estimates are based on studies among key populations that are at higher risk of HIV exposure (UNAIDS 2006a).

hurricanes or droughts. Emergencies may lead to widespread population displacement, either internal or across national borders; others affect only certain parts of a country or region (UNAIDS 2006b). A disaster can be defined as 'a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community to cope using its own resources' (HPG 2006; DFID 2004).

Both the duration of the emergency and the point of onset relative to the progression of the HIV epidemic should be considered. For example, protracted conflicts generally lead to greater breakdown of social infrastructure. While this may increase isolation and limit population mobility, thus reducing exposure opportunities, it could also result in a lack of communication and greater naivety regarding HIV epidemiology and prevention. In a low-prevalence setting, this may not have a significant impact on transmission, but it may exacerbate vulnerability in the post-conflict period (Mock et al 2004). Populations that are 'encamped' over long periods of time in harsh conditions, with high levels of civilian–military interaction, may also experience increased vulnerability to HIV.

In terms of scale, emergencies may take place on a regional, national or sub-national level, and this will affect the HIV epidemic in different ways. In some countries, like Mozambique, conflict took place in all parts of the country and infrastructure was destroyed throughout the country (Hoeffler 1999). In others, war has been relatively localised, such as in Ethiopia, where military and accompanying civilian commercial activity were concentrated along the Ethiopian–Eritrean border (Mills et al 2006). Rapid-onset disasters may be geographically localised and lead to internal migration or displacement, for example from a rural area to an urban area. This can bring populations with different HIV prevalence into contact.

The emergency typology that we use for this paper divides emergencies into three main categories: i) conflicts and complex emergencies; ii) rapid-onset disasters; and iii) slow onset disasters. It is also important to remember, as will be brought out further in this report, that different types of emergencies can often overlap or occur simultaneously.

In 2006 alone, 185 million people in over 40 countries were affected by humanitarian crisis; of which an estimated 14.3 million were refugees and 24.5 million internally displaced persons (IDPs). Superimposing HIV onto this, in 2006 1.8 million PLHIV were affected by conflict, disaster or displacement, representing 5.4% of the global number of PLHIV. Out of the 1.8 million, 128,000 were refugees: refugees living with HIV accounted only for approximately 7% of the global figure of PLHIV affected by emergencies (Lowicki-Zucca et al 2008).

**Conflict and post-conflict settings** continue to make up a large proportion of the global humanitarian caseload, although the number affected by natural disasters is actually much larger (see below). Current examples include eastern Democratic Republic of Congo (DRC), Sudan and Colombia and, from the case studies conducted for this paper, Sri Lanka and CAR. We also include in this group complex emergency situations such as Zimbabwe, where the humanitarian crises does not fall neatly into the category of conflict or natural disaster. A particular feature of many conflicts and complex emergencies is that they are long and drawn out: the wars in south Sudan, Colombia, DRC and Sri Lanka, for instance, have all stretched over decades. The challenge for humanitarian actors and governments, therefore, is not a short-term emergency response but to provide life-saving assistance over the medium to long term. In relation to HIV, it is important to keep in mind this time dimension. Increased risks of transmission or collapsing health services are not a short-term disruption but rather a long-term phenomenon.

While conflict-affected populations do not necessarily have increased HIV prevalence compared with other populations, it is generally recognised that they are made more vulnerable to HIV infection by widespread human rights abuses, displacement, food insecurity, sexual and gender-based violence and the incapacitation of health systems and other social services, including HIV prevention programmes (Ellman et al 2005; Mills et al 2006; Spiegel 2004).

There is no doubt that conflict affects the epidemiology of HIV, but recent evidence challenges over-simplistic assertions about the links between conflict and the spread of HIV. Depending on the context of the epidemic, and the precise impact of conflict or displacement on population vulnerability, there may be different outcomes. With some exceptions, most countries in Africa that have experienced long-running violent conflict have apparently lower levels of HIV infection compared with those that have experience relative peace (Mills et al 2006). There is some evidence that when initial low prevalence is combined with conflict-induced isolation over long periods of time, HIV progression at the population level may be considerably attenuated. Evidence from DRC, south Sudan, Sierra Leone and Somalia suggests that conflict began when prevalence of HIV infection was low, and it remained fairly low throughout the conflict, as compared with peaceful neighbouring countries. However, existing data are insufficient to draw any firm conclusions, particularly as attempts to explain this conundrum in terms of 'isolation' are based largely on speculation rather than on any analysis of patterns of mobility among disaster-affected populations. A plausible explanation is that low pre-conflict prevalence among local populations and combatants was insufficient to accelerate HIV infection, despite increased risk of transmission owing to rape and other factors associated with vulnerability to HIV in conflict settings (Spiegel et al 2007).

A **natural disaster** is defined as 'a serious disruption triggered by a natural hazard causing human, material, economic or environmental losses, which exceed the ability of those affected to cope'. It follows, then, that a **rapid-onset natural disaster** is a natural disaster that is triggered by an instantaneous shock, the impacts of which may unfold over the medium or long-term. Such disasters are increasing in number and severity and their impacts fall most heavily on poor people in developing countries (HPG 2006).

Over the past few years, a series of rapid-onset natural disasters has left the world reeling: tsunamis in Asia and Africa killed over 200,000 and left millions orphaned, homeless, grief stricken and traumatised. In the US, Hurricane Katrina displaced over one million people and more than 1200 died. In Guatemala, Hurricane Stan left at least 652 dead and 398 missing, wiped out crops and roads and entombed whole villages in mud. The massive earthquake that struck Kashmir killed at least 73,000, severely wounded as many and left up to 3.3 million homeless. More recently, Cyclone Nargis, which hit southern Myanmar in May 2008, left over 130,000 dead or missing and 2.4 million destitute. Disasters during 2005 alone caused 99,425 deaths, of which 84% owed to October's South Asia earthquake. In 2005, the number of floods increased 50% compared with 2004. From 1996 to 2005, disasters killed over 934,000 people – nearly double the figure for the previous decade – with 2.5 billion people affected across the globe (CRED, cited in IFRC 2006).

Existing literature on how rapid-onset natural disasters enhance vulnerability to HIV is limited, but it is possible to predict that natural disasters such as tsunamis, hurricanes and floods could lead to insecure conditions, exacerbating the spread of HIV through inadequate safe blood; shortage of clean injecting equipments for IDUs; insufficient supplies of condoms; displacement and increased vulnerability to sexual abuse and violence; and disruption of HIV prevention, treatment and care services. In low-prevalence areas, the main fear is that prevalence could escalate if post-disaster hardships push survivors into high-risk behaviours and activities.

Available literature tends to focus on areas where there are also concurrent impacts of conflict. Haiti has endured years of civil unrest and is ravaged by hurricanes; the recent Asian tsunami-affected areas of Sri Lanka and Aceh province, Indonesia, both have rebel insurgencies. However, literature on HIV in Haiti and Sri Lanka tends to focus on the impacts of civil war rather than natural disasters. Some evidence looks at responses and effects of flooding, for instance, and also considers HIV-related issues in the same country, but does not link the two, e.g. Mozambique (Drimie 2004).

The country case studies of Haiti, Mozambique and Sri Lanka provide further data on how natural disasters may enhance vulnerability to HIV. As already mentioned, these are countries where

overlapping emergencies are in evidence: in Haiti, both the political violence and the flooding were considered; in Mozambique, the decades of conflict did not form part of the case study, instead the overlapping flooding and drought-related emergencies were explored; finally, in Sri Lanka, it was decided to focus on the effects of the tsunami on vulnerabilities to HIV, also because another assessment led by the UN High Commission for Refugees (UNHCR) was exploring how the conflict may have increased HIV-related vulnerabilities.

As Hoyois et al (2007) show, between the two decades 1987–1996 and 1997–2006, all types of disasters have increased in frequency, but the most significant increase has been in droughts, or **slow-onset natural disasters**. The maps in Annex 1 show the number of drought disasters reported by country and the numbers of people affected. Superimposing HIV prevalence onto this, it is possible to see that southern and eastern Africa, which have the highest prevalence, also have the highest reported number of drought disasters, as well as the greatest number of people affected by them. Asia is also affected by disasters, but has low to medium HIV prevalence.

Since the full impacts or effects of droughts often take time to manifest themselves, drought is often treated as a development issue rather than an emergency issue. In regions where HIV prevalence is already high, debates have been raging on the relationship among HIV and AIDS, food security and vulnerability or resilience. These debates are essentially focused on southern and eastern Africa, where a convergence of various factors is in evidence, including drought, high prevalence and weak government structures- referred to also as triple threat countries (see below). We focus on slow-onset emergencies in African contexts since this is where most data on the convergences exist. This does not signify that droughts in Asia, for instance, do not affect people and that there is no relationship between HIV and AIDS and drought in this region.

Table 1 sets out the key risks relating to HIV in relation to different types of emergencies. What is important to note is that many of the risks cut across different types of emergencies. However, the risks manifest themselves in very different forms and increases might not be the same across the different types of emergencies.

**Table 1: Key risks relating to HIV/AIDS in emergencies**

Risks relating to HIV/AIDS	Conflict	Quick onset	Slow onset
Sexual and gender-based violence	Rape as weapon of war. Risk of sexual exploitation and violence by armed forces.	Not so visible in quick- or slow-onset natural disasters. Gender-based violence risks following displacement.	
	Risk of sexual exploitation by those in positions of power including humanitarian aid workers. Limited evidence coming out in the open.		
	Increased risks of sexual violence owing to displacement.		
Transactional & commercial sex	More people tend to be forced into transactional sex in all kinds of emergencies owing to increased poverty and destitution as a result of loss of livelihoods. Changing patterns of sex work in different types of emergencies: new client groups and often diminishing condom use		
Consensual sex	Increases not so evident.	Evidence of increases from camps and shelters following disasters.	Increases not so evident.
Displacement	Displacement increases vulnerability to HIV infection owing to risks of violence, social stresses and being displaced to somewhere where HIV prevalence is higher. These risks can occur in all contexts but are perhaps more pronounced in conflict settings.		
Malnutrition and food insecurity	People living with AIDS may be more likely to become malnourished in emergencies owing to greater nutritional needs and those on ART face difficulties to adhere to treatment when facing food insecurity – this is especially the case in slow-onset emergencies (droughts)		
Impact of HIV and AIDS on livelihoods	The negative impact of HIV and AIDS on livelihoods increases the impact of emergencies and leaves people affected by HIV and AIDS less resilient because livelihoods are already weakened. Their ability to recover diminishes more rapidly compared to non-PLHIV – in particular during prolonged drought		
Increased drug use and alcoholism	In all types of emergencies, stress to social structures, limited livelihood opportunities and other factors may increase anti-social behaviours such as drug use and alcoholism, increasing the risk of HIV infection through risky behaviours.		

Disruption to health services	Damage, disruption and, in long-running conflicts, collapse of health services may disrupt various aspects of HIV prevention, care and treatment. Likely to be most problematic in long-running conflicts and slow-onset emergencies.
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## 2.3 Vulnerable groups

It is widely accepted that some groups, e.g. FSWs, MSM and IDUs, are more vulnerable to HIV infection (see above). This vulnerability may become heightened during emergency situations, with new vulnerable populations emerging, such as displaced persons and women engaging in casual transactional sex. This section explores the particular vulnerabilities of certain groups of people and how they may become more vulnerable during emergency situations. These groups are referred to further in Section 3 when considering them under different kinds of emergencies.

### 2.3.1 Women

The feminisation of the AIDS epidemic is now a widely accepted phenomenon; globally, more adult women (15 years or older) than ever before are now living with HIV. In sub-Saharan Africa, 59% of people living with HIV in 2006 were women. As will become apparent in this report, existing gender inequalities become exacerbated during emergency situations; women and girls become more exposed to sexual violence and exploitation and as such are at increased risk of exposure to HIV infection.

### 2.3.2 Children and youth

Young people (aged 15–24) accounted for 45% of new HIV infections worldwide in 2007 and it is estimated that two million children under 15 were infected with HIV (UNAIDS 2008). Conflict and HIV are often referred to as a double emergency for children since, when occurring together, they increase children's vulnerability through parental death and by damaging families and communities that protect and care for children. Of the 17 countries with more than 100,000 children orphaned by AIDS, 13 are affected by conflict;<sup>6</sup> similarly, in 2003, one in seven HIV-positive children was living in a conflict or in an emergency situation (UNICEF 2003; UNICEF/UNHCR 2006). When children and young people are forced to flee their homes because of armed conflict, their vulnerability to violence, abuse and exploitation – all key factors in HIV infection – increases dramatically. Similarly, conflict leads to the disruption of social and economic norms, broken families and risks of sexual violence and non-consensual sex. Other children and young people are forced into becoming soldiers and are exposed to the concomitant risks associated with this (UNICEF/UNHCR 2006). It is likely that, during floods and other rapid-onset emergencies, cultural and social structures may be put under strain, thus making children more vulnerable to exploitation. Similarly, when facing severe and long-term drought situations, transactional sex among women and young girls increases (see Bryceson 2006).

### 2.3.3 Displaced populations and mobile groups

People migrate for a number of reasons, including poverty, food insecurity and erosion of livelihoods. Mobile populations are exposed to heightened HIV risks because of, for instance, lack of available health services, limited exposure to public health messages and being away from community support and other structures, which can lead them to seek companionship with FSWs (see e.g. Chinaglia et al 2007; IOM 2006). In addition, certain professional groups have a high degree of mobility, such as migrant/seasonal workers, truck drivers, soldiers or pastoralists. Usual patterns of mobility are affected by emergencies, with new groups becoming mobile, often merging with victims of forced displacement. A variety of complex factors make displaced populations, living in camps or with host communities, vulnerable to HIV. Normal social safety nets may be absent, women and girls can be subject to sexual violence and rape and drug use may be rife. At the same time, health care services are sometimes minimal (UNCHR 2005).

<sup>6</sup> See [www.ovcsupport.net](http://www.ovcsupport.net).

A variety of stigmatising myths surround the issue of AIDS and displaced populations, one being that host-country citizens commonly assume that refugees 'bring AIDS with them'. In fact, the reality is more complex. Many refugees and other displaced persons flee countries with lower HIV prevalence to more stable countries with higher prevalence (Griekspoor et al 2004, cited in UNAIDS 2006a; Spiegel 2004).<sup>7</sup> However, whether this is indeed a reliable pattern or mere coincidence needs to be explored through further detailed analysis of any potential causal relationship.

#### **2.3.4 High-risk populations**

In Asia, Eastern Europe and Latin America, the epidemic remains concentrated in high-risk populations: MSM, FSWs and IDUs. In Eastern Europe and Central Asia, two in three prevalent HIV infections in 2005 were found among IDUs; sex workers and their clients, some of whom also inject drugs, accounted for about 12% of HIV infections (UNAIDS 2006a). Paid sex and injecting drug use accounted for a similar overall proportion of prevalent HIV infections in South and Southeast Asia. In emergency situations, these high-risk populations remain particularly vulnerable. In particular, an insufficient number of national AIDS programmes adequately address the role of sex between men, whose plight increases in emergency situations, and IDUs are also likely to become more vulnerable, since safe needle exchange programmes and supplies of drugs and replacement therapies are likely to have been disrupted. Stigmatisation is also an issue for all of these groups.

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<sup>7</sup> For example, sentinel surveillance among pregnant women in refugee camps in Kenya, Rwanda and Tanzania found that the refugees had lower (though still significant) levels of HIV infection than the surrounding populations.

### 3. Vulnerability to HIV

#### 3.1 Conflict/post-conflict and complex emergencies

##### 3.1.1 Vulnerability through increased sexual and gender-based violence

Sexual and gender-based violence (SGBV) often increases during conflict. Complex social factors associated with armed conflict, such as the use of SGBV, especially rape, as a 'weapon of war', displacement, disintegration of families and communities, changes in stable sexual relationships and the social norms governing sexual behaviour and fatalism among soldiers and civilians in war situations, may all increase vulnerability to HIV.

**Rape and HIV in conflict settings:** Rape has been a feature of all recent conflicts, including the ongoing one in the Darfur region of Sudan, as well as those in the former Yugoslavia, DRC, Rwanda, Sierra Leone, Liberia, northern Uganda and Chechnya. It is claimed that rape is often used as an instrument of war to denigrate the enemy and terrorise and humiliate civilian populations and as a means of soldier gratification (Mills et al 2006; WHO 2004). In the eastern region of the DRC, thousands of women and girls are reported to have been gang raped with such violence as to cause vaginal fistulae (Jewkes 2007). In Tanzania, 27% of randomly selected Burundi refugee women between 12 and 49 years old had been raped since becoming refugees according to an International Rescue Committee (IRC) assessment (UNHCR 2000).

During the conflict and period of political unrest in Haiti, sexual violence, including rape and gang rape, increased from already high levels. In interviews with women in Cité Soleil,<sup>8</sup> all spoke about fearing sexual abuse and rape. According to a 23-year-old woman, sexual violence had never happened to her, but 'that's what happens here, you just have to accept it, they will organise themselves, they will take out a knife, so you can't do anything about it. It can be several men, even 10, they only do it once, they won't start a relationship. Victims will come to the hospital but will come later, as it is shameful to be raped.' The episodes of violence that have characterised CAR's recent history have also been marked by repeated incidents of rape and SGBV.<sup>9</sup> More recently, reports of widespread rape have once again been received, and the Office for the Coordination of Humanitarian Affairs (OCHA) suggests that over 15% of women and girls in the north of the country have been subject to SGBV.

While rape can increase an individual's risk of contracting HIV, a recent systematic review of HIV prevalence in seven conflict-affected countries in sub-Saharan Africa found insufficient evidence that displacement and wide-scale rape increased HIV prevalence at a population level (Spiegel et al 2007). The Haiti case study also showed that, taking national-level prevalence figures, sexual violence and the conflict do not seem to have increased prevalence, which has remained relatively low in Haiti and has in fact declined according to a recent (2005) population-based survey. This found adult prevalence to be 2.2% compared with 2003, when it was estimated at between 2.5% and 11.9% (for more discussion on this see the Haiti country report). These findings are somewhat counterintuitive, as Haiti, given its long history of conflict, high levels of poverty and high levels of mobility/migration, appears to be a fertile area for HIV prevalence to reach similar levels to those in some countries in southern and eastern Africa. These changes can also be explained by different

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<sup>8</sup> A shanty settlement in Port-au-Prince, which was the scene of some of the most violent clashes between gangs and, later on, the peacekeepers.

<sup>9</sup> ICC (2007). In the document justifying its decision to open an investigation into the situation in the country, the International Criminal Court (ICC) refers to sexual violence as having been a 'central feature of the conflict'. It has received credible reports of at least 600 rapes over 2002–2003, while acknowledging that this number is likely to under-represent the true figure. At that time, Congolese troops led by Jean-Pierre Bemba, known as the *banyamulenges*, committed widespread rape in areas such as Bangui, Bouar, Bossangoua and Bozoum.

methodologies used for measuring HIV prevalence, i.e. population based survey versus ante-natal surveillance.

No straightforward linkage between conflict-related rape and increase in HIV prevalence can be assumed. A mounting body of evidence suggests there is an important time dimension to keep in mind when considering the relationship between HIV and conflict. Experiences in Mozambique and Angola suggest that vulnerability increases during conflict but the greatest opportunity for exposure may occur in the post-conflict phase, owing to increased risk of unprotected sex with more partners and renewed population mobility, including between rural and urban areas, and the disarmament, demobilisation and reintegration of former combatants (Mock et al 2004). The post-conflict period might also be a time of particular vulnerability for sexual and intimate partner violence (Jewkes 2007). The juxtaposition of high vulnerability and increased exposure opportunities during the post-conflict phase can lead to explosive growth in the epidemic (Mock et al 2004). In Haiti, this does not seem to have been the case, however, as mobility and migration, for instance, have been features throughout the period of political unrest; while the political unrest has now subsided (though whether it can be called a 'post-conflict' period is debatable), prevalence does not seem to have increased. Nevertheless, further comparable studies over time are needed to examine the relationship between HIV and post-conflict settings, in particular to explore why, in many conflicts that feature high levels of rape, HIV prevalence does not appear to be affected.

**Forced displacement** may also create increases in SGBV. The conditions prevailing in temporary camps and shelters set up for displaced people can increase the risks of sexual exploitation and abuse and, consequently, HIV. Camps may not have well-protected women's quarters or may have inappropriate sanitary facilities. According to a reproductive health survey carried out among Sudanese refugees in Chad, services relating to the prevention of SGBV left many of the protection needs of refugees unmet. Women and children living in camps on the border were at risk of sexual violence from Janjaweed militia, who regularly made incursions to the border area to steal livestock and other resources of refugees (Krause and Bader 2005b).

In a low-prevalence setting like Colombia, a study carried out in 2007 by the UN Population Fund (UNFPA 2007) showed displaced youth as potentially vulnerable to HIV, with higher pregnancy rates among displaced women and an assumed rise in SGBV.<sup>10</sup> Knowledge of HIV among this vulnerable group is low, as a Profamilia survey of 2000 found that adolescents displaced by armed conflict had the lowest level of knowledge of HIV, AIDS and STIs.<sup>11</sup> A report of a joint UNHCR/UNAIDS mission (2006) in Nepal, another low-prevalence setting, showed that the conflict has had a profound impact – triggering displacement and migration (mainly of males to India, and also rural to urban, the latter sometimes resulting in better access to health services and HIV prevention information), disrupting traditional family and community safety nets, as well as schooling. Overall, the Nepal assessment was not able to demonstrate, however, that the conflict had led to an increase in HIV prevalence in affected populations, although it did clearly show that HIV-related vulnerability had increased.

### 3.1.2 Vulnerability through transactional sex/commercial sex work

The use of sex as a survival strategy and bargaining tool, with its attendant HIV risk, is also well recognised in conflicts, particularly where forced displacement has occurred. Both men and women, but particularly women, may find themselves in a position where they are forced to engage in transactional sex in order to secure their or their family's livelihood, or in return for safe passage, food, shelter or other resources (Jewkes 2007). A recent World Health Organization (WHO) study in eastern and central Sudan stated that 27% of single mothers had become sex workers to earn a

<sup>10</sup> The report cites extraordinary violence against women owing to armed conflict and abuse. While recognising that many cases go unreported, the research references surveys that were carried out with displaced women.

<sup>11</sup> Profamilia is an association promoting sexual and reproductive health services, see <http://www.profamiliapr.org>.

living.<sup>12</sup> Precise data on CSWs and their clients in conflict settings are often lacking. In these situations, population mixing may increase the risk of HIV, especially for populations with lower prevalence. Risk of HIV transmission depends on the relative HIV prevalence of the two populations and the extent and pattern of sexual interaction, as well as factors such as STI prevalence (an important co-factor in the sexual transmission of HIV) and the maturity of the HIV epidemic in the vicinity (Haour-Knipe et al 1999, cited in Khaw et al 2000).

In CAR, a high-prevalence country, the fieldwork found that commercial sex work was becoming more common as a result of the deteriorating economic situation, pushing young women and girls into behaviours that put them at risk of HIV. According to respondents, young women sometimes even have parental encouragement if it is felt that this will help bring in extra resources to help support the family. The sex workers who participated in an FGD in CAR (Bouar) explained how economic difficulties caused by the conflict and insecurity have changed the patterns of sex work: with the exception of the armed forces, men locally have less money available; more women are becoming involved in sex work. This has caused hardship for existing CSWs who, in the face of declining incomes, claim that they are more likely to accept unprotected sex since a client may offer twice or more the regular fee.<sup>13</sup> Similarly, the UN Development Program (UNDP 2006) suggests that women in CAR who have more recently become involved with commercial sex are likely to be more reluctant to use condoms for fear of being branded a prostitute. The CSWs in Bouar were unambiguous in stating that the presence of the South African troops in the vicinity had increased sex work and that young women were attracted to their camps. Reports from an UN interagency mission (UN 2008) confirm that, in Bozoum, the presence of FACA/FOMUC is also causing some CSWs to leave Bangui for the town.<sup>14</sup>

In Somalia, a (still) relatively low-prevalence country, with 1.82 million made vulnerable by armed conflict, displacement and natural disasters, almost the entire country is internally displaced. An IOM 'hot-spot mapping' showed that entry into 'survival sex' work was most common, particularly among women who headed their household, and that sex workers and their clients reported highly inconsistent or no use of condoms. There was also a high level of mobility among transactional sex workers both before and after starting transactional sex; and sex workers' clients, e.g. uniformed services and truck drivers,<sup>15</sup> reported inconsistent condom use with multiple, concurrent sexual partners in multiple locations among mobile populations.

### **3.1.3 Vulnerability relating to military forces and humanitarian aid workers**

In areas of conflict, there may be increased HIV risk because of an 'imported' military presence. A growing body of evidence exists on the trajectory of HIV and AIDS among military and uniformed service personnel, including international peacekeeping forces, regional and national militaries, security personnel (police, border guards) and militias. AIDS-related illness is now one of the leading causes of death in the military and police forces in Tanzania, Uganda, Zambia and Zimbabwe (Gordon et al 2004).

Increased HIV prevalence among soldiers is attributed to their high-risk age group and the fact that they are highly mobile: away from spouses or regular partners for long periods of time; subject to peer pressure that embraces macho behaviour and risky behaviours, reinforced by feelings of power and invincibility; likely to engage in injecting drug use; likely to suffer injury requiring blood transfusions; and equipped with sufficient means to purchase sex or use power and weapons to exploit or abuse others and to force sexual relations (UNAIDS 2006b).

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<sup>12</sup> HIV and AIDS in Emergency Settings website <http://www.aidsandemergencies.org/womenchildren.html>, last accessed 9 September 2007.

<sup>13</sup> Whereas in a 2001 study cited in UNDP (2006), sex workers were using condoms in 75% of sexual transactions.

<sup>14</sup> FACA is the Central African Armed Forces and FOMUC is the Multinational Force in the Central African Republic.

<sup>15</sup> CRIS and Somalia newsletter, February 2008.

The case study in CAR reports that, according to UNFPA, HIV prevalence among uniformed services is at 21%;<sup>16</sup> such high levels were confirmed locally by the medical officer at the barracks in Bouar, who said that 60 out of the 150 men stationed had been tested and found HIV positive (40%). According to this same source, condoms are made available to the men in their kits and are also sold at the pharmacy, but the quantity is insufficient and there are stock interruptions.

The militaries are also of concern as vectors of HIV, increasing the HIV risk of their sexual partners in mission areas, and on their return from mission areas. On occasions, UN peacekeepers have been accused of sexually assaulting or abusing the populations they serve. Furthermore, deployed soldiers' demand for CSWs might contribute to the demand for human trafficking. As Allred (2006) notes, a major obstacle to the prevention of SGBV by peacekeepers is the lack of host nation jurisdiction over them, which gives troops *de facto* immunity from prosecution.

### **Box 2: HIV risks relating to UN personnel in Haiti**

A knowledge, attitudes and practice (KAP) survey was recently conducted in Haiti among male UN military and police personnel belonging to MINUSTAH.<sup>17</sup> This showed that troops have relatively good knowledge of HIV but with significant variations between different contingents. Only 6.5% of respondents said that they had had sex during the course of their mission, but 30% had done so during their time off.<sup>18</sup> Condom use was found to be high but inconsistent (greater than 87% while on mission and around 50% while on leave). The report recommends that pre-deployment HIV training should be provided more systematically and encourages the use of peer educators as a means of promoting appropriate knowledge and behaviour. A number of cases of sexual misconduct by mission personnel have been reported, leading to expulsion from Haiti.

**HIV and AIDS and humanitarian aid workers:** Much less acknowledged is the risk of sexual activity among humanitarian aid workers. Whether local or expatriate, they may seek casual sexual liaisons or visit local sex workers. In November 2002, the Office of Internal Oversight Services (OIOS) was asked by the Office of the UNHCR to review allegations of sexual exploitation of female refugees by international and national aid workers. The report contains observations as to the factors that contribute to sexual exploitation in refugee communities, including aspects of refugee camp life, camp structure, camp security, food and services distribution, employment opportunities, profiles of camp workers and quality and quantities of food and other relief items distributed (UN Secretary-General 2002).

#### **3.1.4 Vulnerability through mother-to-child transmission**

Mother-to-child transmission (MTCT) occurs during pregnancy, delivery and lactation, and is a major threat to infants in emergencies. According to Leyenaar (2004), high rates of sexual violence and exploitation during conflict and the fact that MTCT is highest during the period of primary maternal infection may mean that MTCT is likely to increase in conflict settings. However, there is also evidence to suggest that, during the acute stage of a conflict, fertility rates may be reduced owing to isolation and immobility and that, as stability returns in the post-conflict period, sexual activity and fertility may rise, increasing the risk of MTCT.

The Haiti case study shows that, during the political violence, hospitals and clinics providing prevention of mother-to-child transmission (PMTCT) activities did not close, nor were they affected by the violence. More important, however, is that, despite the number of PMTCT sites increasing in Haiti, many women are not accessing them. According to the PMTCT coordinator in Cité Soleil,

<sup>16</sup> UN CAR Consolidated Appeal: Projects 2008.

<sup>17</sup> The most significant response of the international community to the violence and political instability that surrounded the departure of former President Jean Bertrand Aristide from office in 2004 was the creation of an international peacekeeping force, MINUSTAH (UN Stabilization Mission in Haiti), whose mandate was renewed for a further 12 months in October 2007. This is currently composed of over 7000 UN troops (including contingents from Brazil, Argentina, Jordan, the US and Sri Lanka), with a further 2000 police and approximately 500 civilian employees.

<sup>18</sup> There is no indication where this time off takes place, and whether it is in Haiti or elsewhere.

despite women coming to test and some starting ART, some are afraid to complete the PMTCT process since they fear violence from their partners.

### **3.1.5 Vulnerability through medical equipment and blood transfusions**

It is difficult to quantify HIV transmission from inadequately sterilised medical equipment because such cases tend to occur in locations where diagnostic and surveillance systems are poor. As such, no information on specific levels of HIV vulnerability was found in high- or low-prevalence conflict settings. Some literature referred to the potential risks, including mass immunisation campaigns, injections, intravenous transfusions, incision procedures when supplies are inadequate, unsafe sterilisation practiced and poorly trained staff. Health care workers themselves may also be at risk through needlestick injury or the exposure of open cuts to the blood or other bodily fluids of an HIV-positive patient, under chaotic emergency conditions (Khaw et al 2000, cited in Leyenaar 2004). It is possible that transfusion-related risk may be greater in conflict settings, compared with other kinds of emergency, owing to a large number of war-related injuries requiring transfusion. Importantly, this risk will be heightened if there has been a breakdown in the health infrastructure and subsequent failure to screen blood transfusions or ensure a sterile supply of surgical equipment. As Khaw et al (2000) note, the use of paid donors and the failure to screen out high-risk donors also increases HIV risk, and both are more likely to happen when health services have been disrupted by a conflict. In Haiti, the Haitian Red Cross has been in charge of blood supplies since 1986. Blood supplies are rigorously scanned; even during the violence and conflict period this blood safety programme has been maintained.

### **3.1.6 Vulnerability through injecting drug use**

The effect of war on the extent of drug use has not been widely studied. War can increase IDU-related transmission of HIV in a number of ways: through its initiation among bored and/or demoralised troops; through the disruption of supply routes, facilitating the introduction of new drugs with higher injection frequencies; through the creation of shortages of sterile injecting equipment; or through reduced quality and/or availability of non-injectable drugs. The majority of literature on this topic comes from mid-/low-prevalence settings such as Afghanistan and Pakistan. War-induced fluctuations in drug supply and price in Afghanistan and Pakistan have directly influenced the spread of HIV, according to Hankins et al (2002). Increasing prices encourage people dependent on opiates to seek the most cost-efficient means of administration, i.e. injection. Preliminary findings from a study on IDUs in Quetta (Zafar and Hasan 2002) and Lahore (Strathdee et al 2002) indicate that military and police pressure on the Afghan–Pakistan border interrupted heroin supplies, resulting in decreased quality of drugs in Quetta and Lahore. Many heroine users who had traditionally inhaled fumes at that time switched to injecting synthetic opiates, particularly buprenorphine, which was cheaply and widely available from chemists (Hankins et al 2002). According to Hankins et al (2002), HIV molecular epidemiology has demonstrated close associations between drug trafficking routes in South and Southeast Asia.

### **3.1.7 Summary**

The case studies show that the impact of SGBV, especially rape, in armed conflicts on HIV prevalence seems to be less direct than has often been suggested, and depends on several variables, including isolation or mobility of affected areas and participating groups. The case studies suggest, however, that the resulting displacement and loss of livelihoods is a crucial factor in increased transactional and commercial sex among displaced populations, rendering them increasingly vulnerable to HIV infection, especially when they are displaced to urban centres and are exposed to high-risk groups. In high-prevalence settings like CAR, such high-risk behaviour could translate into increased infection rates. In mid-/low- prevalence areas, or in concentrated epidemic settings, on the other hand, the risk of significant increases in HIV prevalence owing to conflict may be low, particularly where populations remain isolated during the conflict, even though actual risk behaviour increases. For other vulnerabilities – MTCT, drug use, through medical

equipment and blood transfusions – evidence is less available on the extent to which these lead to increases in vulnerability to contracting HIV in conflict situations.

## 3.2 Vulnerability to HIV: Rapid-onset natural disasters

### 3.2.1 Vulnerability through increased sexual and gender-based violence, transactional and commercial sex

It is generally recognised that destitution, displacement and loss of livelihoods and income as a result of rapid-onset disasters places populations, and in particular women and girls, at risk of sexual exploitation and of having to have sex in order to gain access to basic needs such as food, water and security (Smith 2002). Certain intermediate variables will inevitably influence the extent to which rapid-onset disasters increase levels of vulnerability to SGBV and HIV. First, the type of rapid-onset natural disaster makes a difference – storms and earthquakes may destroy homes but not lead to displacement. Floods are more likely to cause displacement but usually for a relatively short period (Weist et al nd). Second, if migration occurs, internal or otherwise, it can bring populations with different HIV prevalence rates into contact, thus increasing HIV risk for those with lower HIV prevalence. Third, geographic scale is important, as a localised disaster in a rural area may lead to increased rural to urban migration.

**High prevalence:** Research by Paul Farmer (2001) on HIV risk in hurricane-ravaged Haiti in the late 1980s/early 1990s showed that the chief risk factors for HIV were residence in the capital Port-au-Prince, work as a servant and sexual contact with soldiers and truck drivers. However, the analysis focuses on the worsening political and economic crisis as the driving force behind the epidemic, and less on the impacts of the hurricanes, although Farmer does state that enormous damage to land caused by hurricanes had led more and more peasants to abandon agriculture for wage labour in the cities, increasing their risk of HIV. The case study carried out in Haiti provides further information on vulnerabilities to HIV as a result of the flooding. One of the main features of the flooding was the evacuation of people to shelters, which were usually existing buildings (schools, old hospitals and even private houses) turned into refuges. Stories were mixed regarding how people were arranged in the shelters: some said there were separate areas for men and women, others said that families were put together and others still said that people were mixed.

On the basis of the interviews and Focus Group Discussions (FGDs), there is no evidence that SGBV was a major problem in the shelters. However, there is a general consensus that consensual and transactional sex is likely to occur, given the extreme vulnerability of many people and the shortage of goods distributed. According to respondents, increases in partners are likely to occur since there is a lot of ‘mixing’ and people end up close to others. With the trauma people face, they often seek comfort in others and engage in sexual relationships. These increases in sexual relationships can lead to an increased risk of HIV transmission. In discussion with a group of women in a shelter (Bon Repos), it emerged that condoms were not available. According to one woman, ‘we don’t get them; we need them’.

During an FGD with self-identifying sex workers in St Marc (a town north of Port-au-Prince that suffered severely from the flooding), they insisted that they always use condoms with their clients and this had never changed, even during the flooding period<sup>19</sup>. However, a key informant in St Marc suggested that, since many clients of sex workers are from outside St Marc, during the flooded periods clients were likely to have reduced in number, as roads were closed. This may have resulted in sex workers engaging in sex without condoms with the few remaining clients, out of desperation, as this attracts a higher fee.

<sup>19</sup> These were brothel-based sex workers, who were linked to a non-governmental organisation (NGO) where they received free condoms and other incentives. They could only be part of this NGO if they underwent regular HIV tests. We did not speak to street-based sex workers who, by their very nature, are less organised and have less access to condoms.

The case study in Mozambique provided similar kinds of information: as in Haiti, there was no evidence of a noticeable increase in sexual violence or sexual exploitation as a direct result of the emergency. This is explained by the fact that the displaced communities knew the area to which they were displaced and knew the local community. However, there was an increase in consensual and transactional sex because of the flooding, with a significant amount likely to be unprotected, often in exchange for material benefit. Community members reported that a far larger (than before the floods) number of women, who had been displaced and were living in accommodation and resettlement centres, were becoming pregnant. The reasons given were that people were now living in a concentrated area, with more venues for people to meet and less social control. This partial breakdown of usual social practices was described as situations where ‘young girls are having sex for a biscuit or 10 meticais’ (US\$0.40).

During the floods in Mozambique, according to an FGD with sex workers, there was an increase in numbers of sex workers coming from outside Caia, who were attracted by the growing number of humanitarian workers and transporters. Although the sex workers who took part in the FGD reported that they did use condoms and they had some knowledge about HIV transmission and prevention, it was also evident that they did not always have the capacity to negotiate safe sex with their clients: ‘this is our sole means of making a living ... we made more money during the floods than now ... I had a friend that worked with me and had a “gonorrhoea” and was not treated well at Caia Health Centre. They kept on saying “come back tomorrow, come back tomorrow” and she gave up and went to Quelimane ... The sickness HIV exists and at any moment you can catch it.’ Interestingly, they pointed out that there were more condoms available and free during the emergency (although they did not say where or how these were made available), whereas now they have to buy them.

**Mid/low prevalence:** The majority of information in mid-/low-prevalence countries in terms of vulnerabilities to HIV as a result of rapid-onset natural disasters relates to the 2004 Asian tsunami. According to some reports, post-tsunami conditions such as mass displacement, worsening poverty and the influx of new populations, including reconstruction and relief workers, soldiers and transporters, increased the risk of sexual exploitation in Sri Lanka and Indonesia. Camps and barracks, home to hundreds of thousands of tsunami survivors, also posed new threats. An assessment of reproductive health care carried out in Aceh by the Women’s Commission reported isolated incidents of SGBV, including rape and trafficking of young girls by people in the camp. There were also reports of foreigners coming in directly after the tsunami to abduct children. Young women, some without families, were being approached by men offering protection and companionship (Krause and Bader 2005a).

### Box 3: Vulnerabilities post-tsunami in India

Focusing on vulnerability to four behavioural risk factors – unprotected sex with non-regular partners, exposure to infected blood and blood products, sharing infected needles and MTCT – findings showed that 29 of 30 coastal communities were vulnerable to HIV before the tsunami and that the tsunami and its effects had raised vulnerability in at least two-thirds of the locations.

Factors increasing vulnerability included:

- Physical proximity of the opposite sexes owing to temporary/permanent displacement;
- Availability of ‘safe spaces’ for sexual activities;
- Sex for obligations, livelihood protection, sexual harassment;
- Social controls breaking down, community members more ‘free’ to engage in risky behaviour;
- Less privacy, less spousal sex, sex sought elsewhere;
- Increased STIs, particularly among women;
- Displacement, mobility and migration, leading to a new environment, less protection;
- Brinkmanship/fatalistic attitude to sex and unprotected sex;
- Increased alcohol consumption, increased unprotected sex – commercial and non-commercial.

Factors inhibiting vulnerability included:

- Tighter than usual controls from strong traditional *panchayat* (village elders governing behaviour);
- Disincentives (such as fines, social isolation, forced marriages, etc.) for sex outside marriage;
- Awareness about HIV built up/more information and education on HIV available;
- Increased love and arranged marriages post-tsunami;
- Little or no leisure time;
- Less access to safe places for sex with destruction of homesteads.

Source: Oxfam and Swasti (2007).

The case study carried out in Sri Lanka sheds further light on the effects of the tsunami on vulnerabilities to contracting HIV in a low-prevalence country. Information gathered from a FGD with sex workers suggests that the tsunami temporarily reduced levels of sex work in some cases, and increased it in others. One respondent described how she was so traumatised she could not engage in sex work for some time after the tsunami. Another described how, having lost her home, she stayed with friends and family, which made it difficult to continue engaging in sex work. Several respondents described how the tsunami and recent floods had made it more difficult, and more expensive, to travel to Colombo to engage in sex work. Some also complained that there were fewer clients after the tsunami, and that those who remained paid less. Many of the 'beach boys' – sex workers in the tourist resorts who have a notoriously low condom use – had disappeared directly after the tsunami, with many of them feared dead.<sup>20</sup> There were, however, reports that transactional sex among women did increase immediately after the tsunami, though the extent of this fluctuated according to receipt of food and other kinds of support. It also emerged that young people, who did not necessarily engage in sex work before the tsunami, were now seen going to beaches and hotels in search of sex work.

Several respondents reported an increase in sexual violence towards sex workers after the tsunami: men who had lost their wives took their anguish and frustrations out on them. All informants spoke about increases in sexual activity, be it forced or consensual: one informant spoke about the phenomenon of 'tsunami babies' and indicated that this could be taken as evidence of increase in sexual activity (see Sri Lanka case study and the review of IOM and IFRC materials). However, it remains unclear how this increase in risk behaviour translates into actual new HIV infections.

With regard to MSM, one male sex worker who had been displaced by the tsunami stated that levels of sex work among MSM had decreased in the immediate aftermath of the tsunami, mainly because of curfews in IDP camps and temporary shelters. He also stated that sexual exploitation of MSM by the local police and armed forces was occurring in camps and transitional shelters. He was not aware of any condoms or HIV prevention programmes in the camps. Discrimination against MSM in terms of aid provision was also highlighted as an important issue: as unmarried men without children, MSM were not considered a priority for food aid, shelter or any other kind of assistance.

### 3.2.2 Vulnerability through medical equipment and blood transfusions

Anecdotal evidence suggests that blood for transfusions was not routinely screened in tsunami-affected parts of Indonesia. A reproductive health evaluation team received anecdotal reports from Ministry of Health and WHO representatives that health workers were failing to practice universal precautions, such as cleaning, and disinfection and sterilisation of medical supplies to prevent the spread of infections, including HIV. This was reportedly already a significant problem prior to the tsunami and international NGOs confirmed it was an ongoing issue (Krause and Bader 2005a).

The fieldwork suggests, however, that the level of vulnerability owing to blood transfusions and medical equipment tends to depend on the state of the health system and mechanisms for HIV

<sup>20</sup> Out of 553 beach boys interviewed, only 4.8% reported always using a condom with regular female partners and 21.6% reported always using a condom with regular male partners; 47.2% reported always using a condom with casual female partners and 45.9% with casual male partners (BSS 2007).

screening of blood donations *prior* to the emergency. Sri Lanka, for example, had a well-functioning blood screening programme prior to the tsunami and no serious problems have been reported with this as a result of the tsunami.

The scale of the disaster is obviously also a crucial factor: although the general health system in Haiti is not as well functioning as the Sri Lankan one, the blood screening programme introduced by the Haitian Red Cross in 1986 is still working well and the risk of HIV infection through blood transfusions is reported to be negligible. However, it has to be remembered that the rapid-onset disasters in Haiti have not reached the same scale as the tsunami, and therefore put a lesser, often localised and in many cases more predictable ('hurricane season') strain on the health sector.

### **3.2.3 Summary**

The results from the case studies show that, although there is little evidence of a strong increase in SGBV, especially rape, as a result of rapid-onset natural disasters, it seems that consensual as well as transactional sex is increasing and causing additional vulnerability to HIV infection. This dynamic seems to appear across all the rapid-onset natural disaster scenarios studied, although the severity and levels of preparedness and response varies. The degree to which sex work is affected seems to depend on the pattern of displacement and the timing aspect.

## **3.3 Vulnerability to HIV: Slow-onset natural disasters**

### **3.3.1 Vulnerability through increased sexual and gender-based violence, transactional sex and commercial sex**

Households and communities in distress as a result of a combination of factors, including poverty, drought and food insecurity, are less likely to receive information and services that discourage transmission of HIV. They may be less aware of the risks and less inclined to focus on the long term, as short-term survival is critical. As has been seen in the above sections, women are in every sense at greater risk than men. When faced with limited livelihood opportunities, many women and girls are forced to turn to commercial and transactional sex. With shocks such as drought and increasing food insecurity the problem worsens; according to the UN (2003), 'all six of the southern Africa countries where food assistance was prioritised last year saw women and girls resorting to "survival sex", exchanging sex for food, money or consumption goods' (see also ActionAid 2005; Bryceson various; Drimie 2004).

In work in Malawi, Bryceson and Fonseca (2006a; 2006b) and Bryceson (2006) show how, in response to increasing food insecurity, with farmers facing a double threat of famine and AIDS, women become increasingly involved in transactional sex. This in turn leads to increased risk of HIV exposure as well as chances of passing on the infection more broadly. They describe a move from self-sufficient subsistence labour performed within the household context towards cash-earning piecemeal work (or *ganyu*), as well as a move from agriculture towards non-agriculture, with income earning turning increasingly to trade and services, including sex work. They point out that, sex workers 'have a vested professional interest in adopting safe sex practices and can impose safe sex as a contractual condition of their service to their clients', but 'the diffuse, haphazard nature of transactional sex in Malawi's rural areas makes safe sex practices far more difficult to promote' (Bryceson 2006). This research shows how traditional agrarian livelihoods are changing as a result of crises and broader shifts and how new forms of livelihood put people at increased risk of HIV infection (see also: Pinder 2004; Shah et al 2002; Weigers et al 2006).

As a result of drought, populations are often forced to move in search of food, water, shelter and relief services. Mobility and/or displacement create further vulnerabilities. Increased migration as a result of droughts opens up the possibility of increased sexual encounters and abuse (UN 2003). A behavioural surveillance survey (BSS) with refugees in Kakuma Refugee Camp, northern Kenya,

and the surrounding host population found that the host population, which had settled around the camp, driven away from their normal habitat because of persistent drought, were more vulnerable to HIV infection than the refugees. Refugees had greater access to information and education and more knowledge about HIV transmission and prevention; they knew where to go for voluntary counselling and testing (VCT), and testing was much more common. Similarly, female refugees reported having 0.9 numbers of sexual partners in the past 12 months compared with 5.8 among the female host population; use of condoms at last sexual encounter with a regular partner among youth was 7.2% among refugees and 6% in the host population; and, among adults, condom use with a regular partner was 6.3% and 1.8% for refugee and host populations, respectively.

There is a thin line between being coerced into transactional sex as a result of the need for food and survival in general, and sexual violence. In fending for their families, women often place themselves at risk of sexual exploitation and are often forced into sexual activity against their will (Drimie 2004; Bryceson various). The BSS in Kakuma Refugee Camp found that sexual violence and forced sex were common. The data show, in keeping with other comparisons between refugee and host populations, that forced sex was more common among host women (11%) than among refugee women (6%). Interestingly, however, while 72% of the perpetrators of the forced sex among refugee women were military officers, among the local women, 70% of the perpetrators were members of their community.

The case study for this review in northern Kenya in Turkana region sheds further light on HIV-related vulnerabilities in the context of drought. In the past two decades, Kenya's arid and semi-arid lands have experienced increasingly frequent droughts, with inhabitants having inadequate time to recover from one drought before the next one strikes, increasing their vulnerability to food insecurity, poverty and likely subsequent HIV infection. Additionally, it is difficult at times to distinguish between the risks of drought and non-drought periods: during the rainy season, floods often destroy the little farming practised along the rivers and cattle die from disease; in the dry season, water is scarce and cattle die of starvation and dehydration. Many people also suffer from diseases during these periods. Thus, a large proportion of the population is faced with the danger of food insecurity at virtually all times, and the mainstay of the economy – livestock – is under constant threat. Emergency here is not a 'one-off' event but is sustained and continuous.

Women and children are often the first to be affected by this, rendering them increasingly vulnerable to contracting HIV. The effects of drought lead many young women to turn to sex work as a means of survival. According to a CSW, 'many young girls engage in prostitution because of the drought situation. These people are hungry and their families have nothing to eat so they start this to help their families ... some of these girls are very young.' Orphans and vulnerable children (OVC) are also suffering increased risk of HIV infection through sex work, as they are often forced to drop out of school to fend for their siblings or to take care of ailing parent(s). A leader of the Youth to Youth organisation described the situation: 'OVC find it very hard. Some live with relatives who tell them to go and work, many don't go to school and some head their households and sell sex or beg in the streets so as to take care of their siblings.'

In addition, many Turkana people who lost their cattle and hence 'fell out' of the pastoralist system move towards peri-urban settlements in search of new livelihoods, jobs or relief aid. As all of these are hard to come by, many women and young girls are turning to sex work. Those pastoralists who still have cattle need to move longer distances to find pastures and water for them – which means that, during periods of adversity, many male pastoralists leave their family behind or send them to the towns or settlements to access relief food. Long absences increase their likelihood of engaging in extramarital sex. They also visit market centres to sell off their herds and, with money in their pockets, they engage in (often unprotected) sex with FSWs, clearly increasing the vulnerability of both parties to contracting HIV, as well as wives back home.

CSWs also become increasingly vulnerable during these situations, since fewer clients are available during severe drought. As one CSW said, 'if we miss clients, then that is a drought to us

... but during droughts we have few clients and getting money is difficult, so condom use is unlikely. When many clients are available we use condoms because if somebody refuses to put one on then you are assured of getting another client.'

The dangerous dynamic of migration towards peri-urban settlements and an increase in sex work is made worse by the changing patterns of sex work: as fewer local clients are available, the client base shifts towards long-distance truck drivers who pass through the northern corridor main route that connects Kenya with southern Sudan, passing the Kakuma Refugee Camp on its way. This route has seen drastic increase in traffic with the end of the civil war in southern Sudan. Truck drivers are now a key client group for the growing number of local women turning to sex work, adding a high-risk mobile population to an otherwise remote locality that is experiencing severe and sustained erosion of livelihoods. Such a combination dramatically increases vulnerability to HIV infection, especially in an area with low levels of HIV knowledge and condom use and high levels of stigma and denial ('HIV is only in the big cities not here in Turkana' is a common phrase).

Similar findings emerge from the Mozambique case study: in the drought-affected Guijá district, community members referred to a significant increase in numbers of girls 'going to town to look for work' or 'going fishing' – the phrase used to describe sex in exchange for goods. Similarly, transactional sex was reported to increase when there was no food, according to informants: 'because of the drought, there are cases of girls who end up prostituting themselves, they are 15 or 16 years old, some of them already have babies'. All this clearly increases vulnerability to contracting HIV, especially if condoms are not used. An increase in SGBV was not mentioned, beyond already high tolerance of domestic violence and sexual assault in 'normal times'.

The case study in Mozambique showed that some livelihood interventions may have unintentionally increased women's vulnerability to HIV infection. One example encountered was microcredit interventions for female-headed households: women would travel for periods of up to two weeks to buy and sell goods for trading. It was acknowledged that this would probably involve an element of sexual bartering to get the best price, as well as recreational sex (sexual violence was not mentioned). HIV prevention information was provided in discussions with the women but condoms were not provided.

### **3.3.2 Vulnerability through mother-to-child transmission**

Food insecurity and malnutrition caused by famines and droughts are likely to affect MTCT. Inadequate nutritional status of the mother may also increase the risk of MTCT via pregnancy, birth or breastfeeding. Some studies suggest the importance of maternal micronutrient status in vertical transmission of HIV by enhancing systemic immune function in the mother or foetus, reducing the rate of clinical, immunological or viral progression in the mother, reducing the risk of transmission in lower genital secretions or breast milk, reducing the risk of preterm and low birth weight deliveries and/or maintaining the integrity of the child's gastrointestinal tract (for a review see Friis 2006; Gillespie and Kadiyala 2005; Piwoz 2004). However, these studies are somewhat inconsistent, as some show that low serum Vitamin A was a predictor of MTCT (Semba et al 1994 in Friis 2006) whereas others found that, although Vitamin A supplementation reduced preterm delivery and had a reduced risk of low birth weight and infant anaemia, it had no effect on MTCT (Coutsoudis et al 1999 and Kumwena et al 2002 in Friis 2006).

In the Kenya case study, the team found that many HIV-positive mothers ended up breastfeeding their children because they did not have the necessary information regarding PMTCT, and the emergency posed increased difficulties in accessing this information from health centres or in adopting alternative feeding practices. Additionally, once children are infected, they require specific care and support services, which may also be difficult to access during drought situations.

### 3.3.3 Vulnerability through medical equipment and blood transfusions

There are some data in conflict and post-conflict situations on vulnerability to HIV infections through medical equipment and blood transfusions, but limited specific data exist on this under drought conditions and in triple-threat countries generally. Many studies have shown (see, for example, Samuels et al 2006) that knowledge about HIV transmission is relatively high in central and southern Africa, and this is particularly the case regarding transmission through use of unclean needles and razor blades. As a result, there has been a widespread push to ensure that appropriate medical precautions are taken to reduce risks of transmitting HIV. Despite this, there are still likely to be occasions when HIV is transmitted through medical equipment and through sharing of razor blades and knives (e.g. during circumcision). These are likely to increase during emergency situations, when health services and health provisions (see below) are reduced and, in general, when longer-term concerns around survival become dwarfed by the current crises.

### 3.3.4 Summary

It is clear that the main vector of vulnerability to HIV infections in slow-onset natural disasters is through an often dramatic and *sustained* increase in sex work as well as in less formalised transactional sex. It seems likely that this might translate into new HIV infections the more it is coupled with migration and interaction with other mobile and high-risk groups.

Livelihoods and intra- as well as inter-communal support mechanisms are eroding steadily and deeply over time and on a broad scale, especially where areas are affected by drought (much larger compared with those affected by, often localised, floods). Additionally, drought and increased competition for scarce resources can be a cause of violence, compounding further HIV-related vulnerabilities: this is the case in northern Kenya, where the drought is made worse by violence and general insecurity caused by cattle rustling and armed robbery.

It will take further research to assess the actual translation of risky behaviour into new HIV infections, but there can be no doubt that the increase in transactional sex, combined with such shifting patterns and increased mobility and population interaction, does create high risks of new infections, especially in settings with a generalised epidemic.

## 3.4 Overall summary

To briefly sum up this section, in all types of emergencies, vulnerability is heightened through increased transactional sex. Across all types of emergencies, the combination of increased transactional sex and influx of mobile groups, such as truck drivers and humanitarian workers (in slow- and rapid-onset natural disasters) and military personnel (conflicts), causes rising vulnerabilities. During displacement, especially during rapid-onset natural disasters, people in camps are exposed to increased and unprotected consensual sex. Increases in rape and other forms of SGBV can also increase vulnerabilities to contracting HIV, especially in conflict/post-conflict settings.

## **4. Impact of emergencies on ability to cope with HIV and the impact of HIV on the ability to cope with emergencies**

### **4.1 Impact on coping capacity: Conflict/post-conflict and complex emergencies**

This section considers how people's ability to cope with the impact of HIV-related illness and death is affected by conflicts. Resilience refers to capacity to anticipate, cope with, resist and recover from the impacts of emergencies, in this case (DFID 2004). There is considerable literature on the myriad ways in which conflict undermines food security and livelihoods. Conflicts have often featured the deliberate use of hunger as a weapon, whereby adversaries seize or destroy food stocks and divert relief assistance. Acts such as the poisoning of wells, looting of livestock and other assets and forced displacement take people away from their regular sources of income and livelihoods (Messer et al 1999).

The way in which people cope or fail to cope with the negative impact of conflict on livelihoods has clear implications for HIV. Common coping strategies, such as reducing consumption or relying on wild foods, may have nutritional impacts that exacerbate the vicious cycle between HIV and malnutrition. Reduced access to clean water or adequate hygiene may be particularly dangerous for people with HIV. For individuals and communities already struggling with the negative impact of HIV on livelihoods, conflict and HIV are likely to represent a double burden, increasing the likelihood of having to resort to negative coping strategies such as distress migration and transactional sex and the likelihood of increased suffering, destitution and death. Conflict may also increase or exacerbate the effects of stigma relating to HIV. Some coping strategies might have positive implications for HIV. For instance, increased reliance on remittances could provide people with sufficient income to pay for treatment, transport-related treatment costs and adequate nutrition. Conflict may, however, undermine remittances, as for example in Darfur, where the closure of the border with Libya has undermined remittance-based livelihoods (Young et al 2005).

#### **Box 4: Links among food, nutrition and HIV**

Nutrition and immunity in HIV-positive individuals can interact in two ways. First, HIV-induced immune impairment and the heightened risk of subsequent infection can worsen nutritional status. Second, HIV infection can lead to nutritional deficiencies through decreased food intake and mal-absorption, with increased utilisation and excretion of stored nutrients, which in turn hasten the onset of disease (Fawzi 2003; Piwoz and Preble 2000; Semba and Tang 1999). It is more and more accepted that HIV infection increases energy requirements: an HIV-positive person has 10–30% higher energy requirements – depending on whether a person exhibits AIDS-related symptoms – than a healthy non-infected person of the same age, sex and physical activity level (FANTA 2004; Piwoz 2004).

For HIV-positive people who are already on ART, disruption to their supplies of ART can put them and, in the long run, others in danger as resistance to ART develops if people stop and start. If people continue the ART without food, emerging evidence shows that efficacy reduces, since micronutrient deficiencies may also affect the absorption of ART. A few small studies are showing improved body weight and body cell mass, reduced HIV RNA levels, improved CD4 cell counts and faster recovery time among adults on ART receiving micronutrient supplementation (Byron et al 2006; Piwoz 2004; Sadler 2006). One study of ART patients in Singapore found that those who start treatment while malnourished have significantly poorer survival rates, making them six times more likely to die than patients who receive adequate nutrition (Paton et al 2006). Others argue that sufficient data are not yet available to make conclusive statements (Raiten 2006 in Friis 2006).

In CAR, food security has been severely affected by the conflict. The UN interagency mission (UN, 2008) conducted just prior to the fieldwork for the current study found that, whereas before people were eating two to three meals a day, now they are eating only one. As confirmed by the World Food Programme (WFP) and UNICEF study (WFP/UNICEF 2007), both the quality and quantity of people's diets have been affected. There tends to be little diversity in food intake, with people eating mainly tubers, and few cereals or meat. Findings also show that this is a similar response for PLHIV who, in order to cope, tend to reduce the amount of food they eat and also to get into debt or to beg. Some PLHIV also reported reselling part of the food aid they received in order to cover other basic needs (e.g. soap).

Another means of coping with violent conflicts is to resort to different forms of transactional sex, including selling sex in exchange for cash, food or protection. For the women spoken to in Cité Soleil (Haiti), who do not identify themselves as sex workers (or at least did not to the research team), being linked to a man is their only means of survival and making a livelihood. According to a nurse at the hospital in Cité Soleil, 'people will sleep with anyone because they need food and money and because there's no money to send children to school. The only strategy that women have or think of is to go and find a man. Each time they come back to the hospital they are pregnant from another man. It makes work that we do here difficult.'

The patterns of sex work can change also as a result of conflict. The CAR study found clear evidence that commercial sex work had increased dramatically among young IDP women as a result of increasing violence and insecurity in the country and resulting loss of livelihoods, with female heads of households and OVC in particular turning to sex work as a coping mechanism. During FGDs with sex workers, they clearly identified the presence of troops as the key stimulus for sex work in the area.

**Family, friend and neighbour networks** are also a key coping mechanism for conflict-affected populations, PLHIV as well as others. During the violence in Cité Soleil, other areas in Port-au-Prince and generally in Haiti, people moved to stay with relatives and friends in other urban as well as rural areas. Some moved for a few months, others a few years. In cases of larger-scale displacement, such as in CAR, however, this mechanism soon collapses as potential supporters are also displaced.

**Migration** is also a key coping strategy adopted by many in situations of conflict. In Haiti, migration is extremely common and has been occurring for decades; in Zimbabwe, mostly illegal migration to South Africa is a key coping strategy. These migrants have increased vulnerability to contracting HIV and, according to a briefing paper by IOM (2008), 'migrants may engage in casual sex or even connive in the sexual exploitation of others'. Owing to conditions of poverty, language barriers or fear, they also tend to have inadequate HIV prevention information and services (including treatment and legal advice). Stigma and discrimination are barriers to accessing services and are often reinforced by xenophobia – the current situation in South Africa is a prime example of this.

**Displacement:** The most widespread response to the security threats in CAR has been for large numbers of people to seek refuge in the bush or in neighbouring towns, or to cross over into neighbouring countries. The UN estimates that one million people in CAR were affected by the resulting humanitarian situation in 2007 and that nearly 300,000 had fled their homes; there are about 197,000 IDPs inside CAR plus approximately 101,000 refugees outside the country's borders, mainly in Chad and Cameroon (UNHCR 2008). IDPs in the bush tend to stay relatively close to their original villages, gravitating to the outlying fields, where they try to survive on a subsistence basis but have virtually no access to schools, health services, clean water or other basic services. Because they are dispersed, they are hard to reach, even by the humanitarian community that may be able to operate within areas under rebel control.<sup>21</sup> Such a pattern of

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<sup>21</sup> There is only one camp for IDPs in CAR: over 5000 people are living in makeshift shelters in the town of Kobo near the border with Chad.

displacement stands in sharp contrast, for example, with the shelters/displacement patterns described below for rapid-onset natural disasters.

IDPs in towns are in a slightly less precarious situation. In most cases, they manage to find a host family or rent a house and find casual work carrying out agricultural labour or doing odd jobs, such as thatching roofs or selling doughnuts or peanut oil in the local market. Others are also engaging in transactional sex (see above). Others may find land to farm, providing they have a means of accessing seeds and tools and have sufficient physical strength, which may be a problem for HIV-positive IDPs. However, most importantly for many urban IDPs, is that they are within relatively easy reach of certain services and can more easily obtain humanitarian assistance. Nonetheless, they do not necessarily have access to cash that will enable them to pay for health or other services.

## 4.2 Impact on coping capacity: Rapid-onset natural disasters

Rapid-onset natural disasters stretch coping strategies to breaking point, especially when combined with other pressures such as HIV and AIDS, poor governance and/or conflict.

In Haiti, Mozambique and Sri Lanka, official shelters set up by the state and/or humanitarian agencies are a key coping strategy, for both PLHIV and others. In the shelters, food and water as well as non-food items are provided. This type of 'all-inclusive' immediate emergency assistance, necessary in acute natural disaster situations with resulting displacement, differs drastically from responses and (available) coping mechanisms in the other emergency settings: no such centres are set up in slow-onset emergency settings and, while they do exist in conflict settings (refugee and/or IDP camps), the timeline is a very different one. Displaced populations in conflicts and complex emergencies often spend considerable time in camps (several years or even decades), whereas populations displaced by natural disasters reside in shelters for a much shorter time – in the case of Haiti and Mozambique, this was often only some weeks or months; in Sri Lanka it was longer owing to the unique levels of devastation caused by the tsunami, but even there the study found that most people had already 'returned' (or at least left the camp). The reasons are clear: the original cause for the displacement is only temporary in the case of most natural disasters. Storms and floods recede – but they might also come back. Shelters are therefore in most of those situations a short-term but potentially repeated and often even predictable (hurricane and cyclone seasons) coping mechanism.

The fact that large population groups are concentrated in such shelters provides opportunities as well as risks with regard to HIV and PLHIV and their coping mechanisms. In cases where such shelters exist and where it is possible to reach them with supplies, such as in Mozambique and Haiti (but not during the recent events after Cyclone Nagis in Myanmar), it becomes much easier to distribute immediate relief supplies, such as food and medicine. In all three case studies (Haiti, Sri Lanka and Mozambique), emergency-affected people acknowledged receiving assistance and furthermore that the availability of relief aid was a major reason for going to the shelters, although complaints were raised about the limited quantities of food.<sup>22</sup> This situation also results in the potential for increasing vulnerability to new HIV infections, as described in Section 3.

In all three countries affected by rapid-onset natural disasters, **family, friend and neighbour networks** are key coping strategies for both PLHIV and others. In Haiti, people spoke about going to stay with neighbours and family members. Staying at people's houses, however, is only a short-term solution, as it places increased stress on the receiving household. All those displaced mentioned that either they were asked to leave or felt that they could not stay. Furthermore, if stigma prevents PLHIV from accessing shelters, it can also reduce their social support networks.

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<sup>22</sup> Such (food) restrictions can become particularly difficult for already vulnerable individuals, such as PLHIV, if they are physically weak or require sustained dietary intake to support their ART.

Again, in all three countries, another means of coping with emergency is to resort more to different forms of **transactional sex**. Yet another important coping strategy in some areas affected by rapid-onset disasters has been outward **migration** and the related remittances. A study carried out by IOM (Naik et al 2007) explores migration resulting from the tsunami in Indonesia, Sri Lanka and Thailand. Among other issues, it points out how remittances increased post-tsunami, thus helping to support and build the resilience of a household. But migration also brings with it increased vulnerabilities related to HIV. As the IOM study documents, people post-Tsunami lost their identities, becoming essentially undocumented displaced persons, unable to claim land or access essential services, making them increasingly vulnerable.

Clearly, dependence on remittances is available only to those who already have relatives abroad. Outward migration cannot, therefore, be used as an *ad hoc* coping strategy, but rather is based on long-term residency of family members outside the country – the US in the case of Haiti, South Africa for many Mozambicans. Households with such external connections might also already have received remittances prior to the emergency, suggesting that they might not necessarily have been the most vulnerable households and are now again in a better position to recover compared with households without relatives abroad. How this affects PLHIV in particular is very difficult to assess, as it depends to a large degree on personal circumstances and family ties. It is clear, however, that PLHIV themselves have reduced options to go abroad and become a source of remittances, considering travel and visa restrictions for PLHIV in many countries.

In terms of other **livelihoods** and how they were affected by the flooding, in Haiti, in ‘normal’ times, formal sector employment is minimal, with the majority of people relying on small-scale petty trading and external handouts, especially food. During the flooding, most people lost much of their property, including small livestock and items that were used for petty trading. As such, when asked what people were doing in terms of livelihoods, the response tended to be ‘nothing’, that they were begging and that their children were going without food. Thus, reliance on external handouts is heightened during emergency situations. In both flood- and drought-affected areas in Mozambique, it emerged that people, including children, were increasingly dependent on *ganho ganho* (piece work, very often in other people’s fields);<sup>23</sup> although this was happening before the emergency, it increased as a result of it. All people are likely to turn to *ganho ganho*, but this can be viewed as even more of a fallback option for PLHIV, who are likely to have less energy than others to travel to their fields and replant their crops.

There are also indications that it is more difficult for PLHIV to recover after an emergency, be it violence/conflict, flooding or drought. The inability to recover is linked to loss of assets, sickness and loss of other resources, but importantly can be linked to the stigma associated with being HIV positive. Similarly, according to the director of MHRD (Movement for Rural Development) in Haiti, ‘the needs of PLHIV are like others but higher, so it is more difficult for them to recover’.

### 4.3 Impact on coping capacity: Slow-onset natural disasters

A large body of literature exists on how people cope and adjust in drought and famine situations and a growing body of literature also exists on how HIV and AIDS affect livelihoods and particularly rural livelihoods and agriculture. Similarly, how rural households respond and how people adapt, cope or just ‘struggle’ have been increasingly the subject of study (Barnett and Blaikie 1992; Baylies 1996; Rugalema 2000; Waller 1997). The terms ‘erosive’ versus ‘non-erosive’ coping strategies have been used, according to which the former are unsustainable and undermine resilience whereas the latter are easily reversible (SADC FANR 2003). Other studies have shown that HIV affects agriculture both directly and indirectly at household level, that it changes supplies

<sup>23</sup> *Ganho ganho* is poorly paid, can be physically dangerous (carrying goods after dark in areas where there may be increased risk of sexual assault, for example) and prevents a child from attending school.

of labour, assets, patterns of farming and other activities and that it also affects communities as a whole as well as the wider economy (Arrehag et al 2006; Jayne et al 2004; Mather et al 2004; Mutangadura et al 1999; Slater and Wiggins 2005; UNDESA 2003).

More recently, concepts such as new variant famine (NVF) and 'triple threat' have been coined as a result of the crisis in southern Africa during 2001 and 2002, which highlighted the complex interactions among HIV, food insecurity and famine. According to Lambrechts et al (2003) in Mason et al (2005), a "lethal combination of factors" came together in 2001/02 to cause a severe crisis in food availability throughout much of southern Africa'. While drought was the major cause, it was compounded by other factors, including worsening poverty, market failures, economic decline, conflict and political upheavals, lack of effective governance and, underlying all this, the worsening HIV epidemic. The NVF predicts two trends over time arising from the HIV epidemic in southern Africa: i) declining rural livelihoods and ii) increasing sensitivity and decreasing resilience of rural communities to drought and other external shocks (de Waal 2003; de Waal and Tumushabe 2003; de Waal and Whiteside 2003)<sup>24</sup>.

Many believe that community safety nets and informal social networks, which are often based on kinship and provide households with crucial assistance and support in areas where public services are absent, are slowly breaking down owing to the number of households that require assistance in meeting care, food, cash and labour needs and their inability to reciprocate assistance in kind or cash (TANGO International 2003). There seems no doubt that they are under significant strain, but other research has highlighted how such safety nets are at the same time more diverse, prevalent and resilient than is usually recognised in the literature (Foster 2005; Sabates-Wheeler and Pelham 2006). However, in the context of this research, we have found social networks to be a key coping mechanism for people affected by emergencies, and exclusion from such networks to be a crucial problem for PLHIV.

Studies have also shown that, as a result of deaths and illness, knowledge and learning are affected. First, children – especially girls – are often pulled out of education and have to care for their sick family members at home, thus are denied future possibilities that having an education may entail. Additionally, they are denied other benefits associated with education, for instance school feeding programmes (e.g. Gelli et al 2006). Informal learning is also affected, as the passing on of knowledge, ranging from agricultural skills to customs and norms regulating social behaviour, is disrupted as adults die, leaving children orphaned. Where children are left in the care of the elderly, this has a range of implications for the elderly, including the burden of having to care for the sick and the young during the time of their lives when they are in need of support (see, for example, Ainsworth and Dayton 2001; du Guerny 2001; HAI and IHAA 2003).

In the case study from northern Kenya, the authors found that an important coping strategy to counter the effects of sustained and recurrent droughts was for people previously living in a pastoralist context to migrate to peri-urban and urban centres in search of work or relief assistance. Women and children in particular moved to such areas, whereas men would often stay with the remaining cattle, covering even larger distances to find suitable pastures.

This break-up of family units, although originally only planned as a temporary measure to better cope with short spells of drought, becomes more entrenched and permanent as drought persists over longer periods of time. The associated vulnerabilities to new HIV infections have already been described. Traditionally, residents in northern Kenya have resorted to community social networks to assist them to cope with drought. People borrow and beg from friends and neighbours, and

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<sup>24</sup> While the NVF hypothesis has become an important part of 'conventional wisdom' (Mason et al 2007), criticisms have been made and continue to be: Wiggins (2005), for instance, shows that the shift from maize production to cassava production did not owe to HIV and AIDS as suggested by NVF, but rather was a result of changes in international regulations on agriculture. Another criticism is that the famine in southern Africa was caused by long-term climate change and by short-term drought. Additionally, few studies have actually been carried out to test the hypothesis, something which de Waal also acknowledges (de Waal 2007).

relatives will provide formal or casual employment. In addition, wealthier people will lend cattle; this is a traditional mutual support system among the Turkana, whereby those who are better off at the moment help the poorer ones through restocking and thus prevent them from 'dropping out' of the pastoral system altogether. However, it is clear now that, over time, the effects of the emergency has diminished the ability of pastoralists to help others. This slow and steady erosion of livelihoods and communal support abilities in turn leads to further impoverishment and migration to peri-urban centres, where people are selling off their last remaining assets and compete for marginal jobs and activities.

The fact that social networks are a key coping, indeed survival, mechanism creates severe problems for PLHIV, who have to live with stigma, social exclusion and marginalisation. Low levels of knowledge about HIV and high levels of stigma create an environment in which few people are encouraged by their traditional family and clan structures to seek out advice, testing or treatment for HIV. The additional burden of caring for a sick person in times of severe hardship, combined with a mindset that attributes blame to PLHIV, makes the situation even more difficult in times of crisis. Women in particular are threatened with expulsion from their families, as traditional gender roles still discriminate against women. Once people are known to be HIV positive, they are often chased away; without any effective support from their previous social networks, they face the precarious emergency situation with very little or often no support.

The study found that one commonly applied coping mechanism for PLHIV is to move closer to urban settings: the very weak, and individuals who have lost their livelihoods, relocate to peri-urban or urban settings where they may have easier access to support. Most PLHIV acknowledged receiving relief food at one point in their life, but the majority felt that the quantity was not sufficient and distribution was inconsistent.

Faster disease progression from HIV to AIDS has been reported by many in the Turkana region, and the associated decline in physical strength makes any income-generating activity even more difficult for PLHIV. Findings show that their engagement in economic activities is limited since their participation is dependent on asset availability, wellbeing and a supportive social network. Usually, one or more of these factors has been weakened, making PLHIV more vulnerable and often resulting in further impoverishment. While the same factors are relevant for non-PLHIV as well, it was observed in Turkana that the vulnerabilities of PLHIV were by far greater and their ability to cope with the crisis situation diminished much faster than for non-PLHIV. This trend seems to continue with the persistence of the emergency situation over a longer duration, which leads to the conclusion that PLHIV – compared with non-PLHIV – are comparatively worse affected the longer the emergency situation continues. This is especially the case in slow-onset emergencies. This should be taken into consideration not only when planning humanitarian response programmes and designing beneficiary criteria, but also when assessing pre-existing vulnerabilities and implementing emergency preparedness measures as well as post-emergency recovery programmes. As PLHIV are harder hit the longer the crisis continues, their resilience with regard to future emergencies is also more heavily compromised than that of non-PLHIV. In fact, there is evidence from northern Kenya that PLHIV remain in a sort of 'micro-emergency' situation, even while non-PLHIV start slowly to recover from the crisis and to rebuild their livelihoods. This is not dissimilar to the picture that emerges from therapeutic feeding stations in Turkana, where a large number of children who did not respond to the treatment and did not recover were found to be HIV positive. The receding emergency leaves behind and makes more visible the chronically vulnerable, who were most affected by the crisis situation.

#### **4.4 Overall summary**

To sum up this section, it can be said that, in all emergency settings, family, friend and neighbour networks are key coping strategies ('social capital'). However, for PLHIV, these are often threatened by stigma and discrimination. Migration is a key coping strategy during all kinds of

emergencies, resulting in increased vulnerabilities. Migrant remittances are key for those left behind; this is especially the case in long-term humanitarian situations such as Haiti, Sri Lanka and drought-affected southern Mozambique. Especially in rapid-onset natural disasters, people are accommodated in shelters, but access to food and the hygiene/sanitary environment are often inadequate, resulting in increased disease and thus lower immunity to contracting HIV and increased opportunistic infections for PLHIV. Especially in slow-onset emergencies (northern Kenya), changing dietary patterns and livelihood strategies have implications for HIV. PLHIV are less able to recover from emergencies, particularly slow-onset natural disasters, which erode livelihoods and social capital: when everyone gets squeezed for resources, PLHIV and OVC are considered even more of a burden.

## 5. Disruption to health and other basic services

### 5.1 Disruption of services: Conflict/post-conflict and complex emergencies

Traditionally, HIV was not considered a priority health issue by humanitarian agencies during emergencies. The focus was on basic needs such as food, water, shelter and emergency health services. This focus may be more relevant in short-lived, localised natural disasters, where the pre-emergency health infrastructure was strong and remains intact or is rebuilt relatively quickly. However, in protracted conflict settings, such as those in Sierra Leone, Burundi, southern Sudan or Angola, the physical and social infrastructure may remain devastated for years. Providing HIV-related health and other basic services in such contexts is a difficult yet critical undertaking for humanitarian organisations. Living conditions for refugees and other populations affected by conflict are often chaotic, so that, even where services exist, they may collapse or experience disruption. In some cases, refugees may have better access to HIV prevention, treatment and care services in camps than they did in their country of origin.

The majority of the literature on delivery of health and other basic services in conflict and post-conflict settings relates to refugees and, to a lesser degree, to IDPs in camps. Considerably less is known about the impact on services to conflict-affected populations that have not been displaced. The case studies in Haiti and CAR shed some light on levels of disruption and access to health services for populations not in refugee camps but affected, and sometimes displaced, by the conflict. Generally, in ongoing conflict situations, access to services is an issue because of unwillingness of health staff to be posted to danger zones and difficulties for patients in reaching health providers.

#### Box 5: Health service disruption in CAR

While access to preventive services and treatment is slowly improving in CAR, insecurity has discouraged medical staff from working in many areas where they have to fear for their personal safety, especially in the north of the country. Almost all the midwives are concentrated in Bangui, with none in certain major towns in the conflict-affected north. The lack of qualified personnel is a severe constraint in implementing treatment programmes for PLHIV. The conflict has also led to the widespread destruction of health centres: according to UNICEF (nd), one-third of the 900 health centres in CAR are reported to be non-functional after being looted or falling into neglect as a result of the emergency.

Largely as a result of this situation of uncertainty and insecurity, rollout of nationwide VCT, PTMCT and ART has been delayed, with the northern regions the worst affected. The humanitarian crisis has slowed down training and supervision, as well as information, education and communication (IEC) and BCC activities. Similarly, security issues give rise to logistical problems, for instance in terms of ensuring adequate supplies of drugs for opportunistic infections (OIs) and STIs and other materials, such as reagents for HIV testing. Even in the very few centres where ART is now available, the numbers receiving treatment are small.

**Prevention:** Recent assessments of the reproductive health context of conflict-affected populations in northern Uganda revealed poor coverage of health facilities and a dearth of qualified health workers. Antenatal coverage was good, but emergency obstetric care was not available and gaps in health workers' knowledge and practice of universal precautions to prevent transmission of infections were significant. Standardised protocols for syndromic treatment of STIs were unavailable, as were medicines and family planning commodities. Access to PEP after rape was consistently unavailable and medicines and family planning supplies had expired. Male and female condoms were unavailable and, according to the Women's Commission for Refugee Women and Children and UNFPA (Krause and Bader 2005b) some men reported that they did not know how to use condoms. However, refugees and IDPs in some instances have better access to better prevention services in camps than they did before the onset of the emergency.

Generally, access to post-rape care is still very limited in conflict settings. PEP is now recommended as a minimum response to HIV in emergency settings and has for example been provided in eastern parts of DRC (UNAIDS 2006b). Still, very few women are able to seek medical care within 72 hours of sexual violence and to receive PEP. Where they did receive PEP, compliance was found to be generally low: in Liberia, Médecins Sans Frontières (MSF) calculated that, among those who receive PEP treatment, not more than 20% return for the mandatory weekly medical checkup and finish the four-week course of treatment. Limited access to health services partially explains low attendance and compliance rates, but there is also a concern that few women are informed about the importance of medical care after rape in order to prevent HIV infection. Shame and fear of stigma cause underreporting, especially during conflict and displacement. In DRC, sensitisation efforts have contributed to greater awareness and openness among the population. However, the difficulty in having fast and safe access to services, especially in rural areas, prevents many women from seeking care (Michels 2006).

During fieldwork in Haiti, it emerged that, while knowledge on HIV and AIDS, including the importance of condoms, is widespread, availability of condoms appears to be an issue throughout the country, whether in an emergency or not. The study did not find evidence of widespread use of condoms, and access to condoms remains problematic mostly because the cost for the majority is still felt to be high.

**Treatment and care:** Currently, only a minority of HIV-positive people who require ART are receiving treatment, and humanitarian situations place even greater obstacles to access and delivery (DOCHAS 2005). Despite high levels of vulnerability, conflict-affected communities have until recently tended to be excluded from international discourse on and funding for AIDS care and treatment interventions; few HIV care programmes have been attempted in conflict regions (Ellman et al 2005). This owes mainly to a perception that facilitating safe and effective access to ART requires a stable health infrastructure, often lacking in humanitarian emergencies.

However, according to UNHCR, refugees often live for years in relatively stable settings in their host countries: by the end of 2003, refugee populations had remained in their host country for an average of 17 years. Moreover, organisations such as UNHCR and MSF do not consider the increase of ART resistance by stopping and restarting therapy in a controlled fashion to be more of a risk for conflict-affected populations than for other populations. The largest threat to developing ART resistance remains taking ART in an incorrect manner, which is no larger for forcibly displaced populations than other populations (UNHCR 2007).

Findings from MSF's three-year AIDS treatment and care programme in Bukavu, DRC, support this view. This suggests that comprehensive care, including ART, in conflict settings can be feasible and effective. While MSF acknowledges that episodes of insecurity can destabilise ART programmes, putting patients at increased risk of ART interruption and drug resistance, it argues that a managed treatment interruption contingency plan can minimise these risks. Given the uncertainty facing AIDS care and treatment in many resource-limited settings – risk of rupture in drug supply, insufficient funding, lack of staff and the growing threat of unregulated drug markets – the notion that sustainability must be a prerequisite for starting treatment is suggested to be false (Ellman et al 2005).

The Haiti case study supports the fact that ART is possible in situations of conflict and political violence. The main hospital in Port-au-Prince, and indeed in Haiti, providing ART is Gheskio, located on the edge of an area which has faced and continues to face gang violence. Despite this, the director says that the gangs have respected the hospital, have not touched it and have never threatened the health staff. As such, the hospital had to close only for a few days during the most violent times of the conflict. It also has contingency plans if necessary: a pool of cars can provide transport for staff; a number of decentralised ART collection sites exist; and, if there is a crisis, rather than give a one-month supply to patients the hospital gives a two-month supply. Additionally,

all people on ART have the phone number of someone in their area who will bring them medicines if they are facing difficulties in going to the hospital and/or to a ART collection point.

Findings from Operation Murambatsvina in Zimbabwe also show that ART was not greatly disrupted.<sup>25</sup> 'Only 12.46% of those who were once on treatment were no longer receiving treatment' and 'out of 658 registered as having had treatment, 74 were no longer on treatment' (IOM Assessment of Operation Murambatsvina, IOM 2005). The most common reason for treatment termination cited was transport (46% no longer had transport). The second most common reason was displacement (13.5%). Here treatment includes ART, tuberculosis treatment or OI treatment; unfortunately, information disaggregated by type of treatment was not available in the report (IOM 2006b).

The relatively optimistic suggestion that maintaining ART is possible even in conflict situations and that emergencies do not necessarily disrupt treatment needs to be tempered by the realisation that it is still often the case that relatively small numbers of people are receiving treatment. As the numbers on treatment continue to expand and reach more remote areas, the risks of disruption during periods of crisis are also likely to increase. As the fieldwork for this report has shown, this is also the case for natural disasters, as for example during the floods in Mozambique.

Furthermore, lack of food as a result of violent conflicts, insecurity and destruction of livelihoods can be crucial for ART adherence. Although supply of ART is not a problem in Haiti (see above), a few people mentioned that they had not been taking their ART owing to lack of food. One woman in Cité Soleil, for instance, said that for the past week she had been taking the morning dose with food and missing the evening one because she had no food. This was echoed by a number of other PLHIV, who said that some days they had to miss drugs because they had not eaten.

#### **Box 6: Disruptions to ART treatment in Kenya following post-election violence**

Following the post-election violence in Kenya, during which an estimated 250,000 Kenyans were displaced, health workers were scrambling to ensure that HIV-positive people on life-prolonging ART continued to receive their drugs and adequate food supplies. 'As of last week, only about 5% of our patients on ART had reported to refill their ART prescriptions', said Sylvester Kimaiyo, Programme Manager of the Rift Valley-based Academic Model for the Prevention and Treatment of HIV/AIDS (AMPATH). 'We have 58,000 HIV-positive people under our care, 24,000 of whom are on ART.' AMPATH's 19 sites across the northern Rift Valley, Western and Nyanza provinces usually gave patients one month's supply of drugs, but habitually also a few days' extra in case patients failed to make it to the dispensaries in time. 'However, staff at our sites say many patients who have begun to report this week had missed some days of their medication', he said, noting that the Burnt Forest and Eldoret areas of the Rift Valley had been worst affected.

As tentative calm returns to the country, patients have begun making their way to the sites, Kimaiyo said, and by 15 January, only patients in IDP camps had not reported. 'We have sent our staff into the camps in the Rift Valley and they are tracing patients and delivering drugs to them. And for those patients able to make it to our clinics, we are providing food supplies from our stores, whether or not they were receiving food before the election.' In Nyanza province, the Ministry of Health's Provincial ART Coordinator, Lennah Nyabiage, said it had been difficult to gauge the situation because the local population was extremely hostile to the government and its officials. Nyanza, with an HIV prevalence rate of 12%, has an estimated 45,000 people on ART. Home to Raila Odinga, the opposition candidate contesting President Mwai Kibaki's December election victory, it has witnessed some of the worst violence in the country.

*Source:* Adapted from IRIN (2008).

In high prevalence contexts where health services for PLHIV are inadequate, home-based care (HBC) programmes have been developed in which community volunteers are trained as caregivers and provide PLHIV with basic nursing care, guidance on nutritional requirements and palliative care. As Wegelin-Shcuringa and Kamminga note (2006), disruption of basic services as a result of conflict makes delivery of HBC extremely difficult. For example, access to safe water and

<sup>25</sup> A large-scale government campaign to forcibly clear slum areas across the country; this is relevant to this section given the political crisis/conflict currently occurring in Zimbabwe.

sanitation is essential for bathing patients, washing soiled clothing, keeping the home safe and clean, preparing food and taking medicines.

During Operation Murambatsvina in Zimbabwe, an assessment of HBC carried out in 2005 found that it was disrupted. The results showed a drastic decrease (77%) in the number of chronically ill assisted, owing most likely to displacement. Of the displaced HBC clients, the majority had moved in with extended family. Of disrupted HBC activities, home visits were the most affected, with 82% of providers noting an inability to carry out such visits. The two main reasons cited for HBC disruptions were client displacement (86% cited this) and then volunteer displacement (82%).

**OVC:** Children's vulnerability to HIV and AIDS is increased in conflict and post-conflict settings through parental death, disruption of social norms and the separation of families and communities that protect and care for children. Children are more likely to need basic services, especially health, education and specialist psychosocial support. After Operation Murambatsvina in Zimbabwe, the overall number of OVC being assisted decreased slightly, presumably owing to the difficulty of reaching them after the mass displacements. In the southern African region, displacement of OVC as a result both of the conflict in Zimbabwe and of being orphaned by AIDS is widespread; this is in evidence from reports of many unaccompanied children in Limpopo in South Africa, moving to earn money (Save the Children 2007).

**Other basic services** are also affected by conflict. Deteriorating living conditions and poor health, water and sanitation services in CAR, for instance, have made the population more vulnerable to diseases, including diarrhoea, acute respiratory infections and parasitic illnesses, which are all important co-factors of HIV and can increase individuals' susceptibility. In the areas most affected by conflict, malnutrition is high among children under five (30% suffer from chronic malnutrition and 4% from severe malnutrition).

In CAR, there is a serious lack of almost all basic infrastructure; for example, only 40% of the population have access to safe drinking water and 4.8% to adequate sanitation facilities (UNDP 2007). Schools have been destroyed and teachers have fled. Gross school enrolment rate fell from 76.5% in 1988 to 68.7% in 2003 as a result of problems related to costs, insecurity and distance. Primary school enrolment in 2006 was half that of the previous year (30.7% compared with 70%), largely as a result of the conflict, which was at its height in that period (UNICEF nd). UNICEF also estimates that 55,000 wooden benches have been looted from schools in the north in order to be used for fuel by rebels and IDPs.

## 5.2 Disruption of services: Rapid-onset natural disaster

**High prevalence:** The floods and cyclones in Mozambique in 2001 increased the burden on an already weak health system, particularly in rural areas. The case study found that most health care during the 2006 flooding was provided by existing local health facilities. There were no disease epidemics and WHO reported no significantly increased morbidity or mortality in its emergency mission of February 2007 (WHO, 2007). The main reason for this was seen as effective service provision, plus relatively small displacement. Condoms were available in health centres after an initial shortage: in fact, there seem to have been more condoms available during the flooding than before and after. However, in certain rural areas, knowledge levels are so low that free condoms alone might not be sufficient to stall risky behaviours. Flood-affected communities living on the islands had few if any HIV-related or general services, even prior to the emergency. There was limited or no disruption of care or support to PLHIV because of an already extremely low level of service provision. Those on ART already lived near the district centre and were not displaced. The few who were displaced were able to continue treatment thanks to health worker and activist efforts. However, informants note that, had there been significant numbers on ART or receiving tuberculosis treatment, things would not have been so easy. Lack of access to services before the emergency, and a high level of service provision for the displaced population but not the host

community, led to some sharp discrepancies, fuelled by an apparent lack of programmes focusing on post-emergency recovery in relation to improved infrastructure.

Similarly, in Haiti, the flooding *per se* had relatively little impact on health services provision. Gheskio remained open, although numbers of patients may have reduced because of access difficulties. As mentioned, condom availability was extremely limited and mostly nonexistent in the evacuation shelters. (Kitchen kits given to those in evacuation shelters do not contain condoms, which would be relatively easy to include.) Meanwhile, many children stopped going to school: schools were closed; people lost the money for school fees; or children were sick as a result of the flooding. Schools that were not affected by the flooding were often used as evacuation shelters. Drinking water in Haiti is a problem generally, and this was made worse. In certain communities, water and irrigation systems were destroyed and water became polluted.

During discussions in Haiti, it emerged that, while in the most recent flooding there were no stories of stigma or discrimination towards PLHIV, during the earlier flooding (Cyclone Dean), people in shelters wanted PLHIV to leave and to throw their stuff away, as they feared infection. They were counselled by those in charge and told that if they did not accept the PLHIV they themselves would be thrown out of the shelter; it seems that calm returned after this. During FGDs in accommodation centres in Mozambique, people reported that 'there are many people with chronic illness here'; nurses in Caia and Morrumeu listed HIV-related illness in the top three causes of morbidity and mortality. However, the majority of PLHIV in the flood-affected areas remained undiagnosed since, as in Haiti, levels of denial and lack of awareness of HIV remain high.

**Mid/low prevalence:** Damage to hospitals was extensive in affected parts of both Indonesia and Sri Lanka. In Sri Lanka, stocks of drugs and medical equipment were washed away (Brown 2005). UNFPA mobilised technical staff and essential reproductive health materials and supplies, but condoms were not visibly available and consultation with women's groups indicated that displaced women were requesting contraceptives. Many agencies did not make condoms freely available because they assumed that this would not be tolerated by the Islamic culture and the Indonesian health authorities. Some agencies were not even aware of the importance of condom provision during emergencies (Krause and Bader 2005a).

Findings from the Sri Lanka case study show that, on the whole, the provision of general health services continued, because they were well established prior to the emergency. In terms of sexual health, specialised or clinical services were not provided, but HIV prevention awareness programmes were conducted. The NSACP (National STD and AIDS Control Programme), the only place to access ART, was not directly affected by the tsunami. However, the government ART programme began only in December 2004, so the numbers of people on ART at the time of the tsunami were small. According to the NSACP, only two people on ART were affected by the tsunami and it was possible to continue their treatment without disruption. Provision of food was adequate; although it started running out, WFP supported by the government continued the provision of food rations to persons living in camp settings for several months after the tsunami. The tsunami destroyed many schools, and schools not affected by the tsunami were used as transitional camps; parents and children often did not want their children to go back to schools located close to the sea. Sanitation was a problem in the immediate aftermath, especially in the camps: the tsunami polluted most of the fresh water wells in the coastal belt. Water for drinking and washing was subsequently supplied by humanitarian agencies.

There are 957 recorded PLHIV in Sri Lanka; according to Lanka+,<sup>26</sup> only 15 of its current members were directly affected. Some saw their house washed away and lost family members. Some sought refuge in camps and shelters, others stayed with friends and family. Not all of the 15 knew their HIV status at the time of the tsunami and only six are currently on ART (two at the time of the tsunami). High levels of stigma and discrimination led most PLHIV to hide their status during the

<sup>26</sup> Sri Lanka's network for HIV-positive people.

aftermath, despite the fact that they felt they had special needs. All respondents felt that PLHIV suffer more in disasters because they are scared of discrimination should their status be revealed.

ANP+ carried out a review (2007) of the impact of the tsunami on PLHIV in Indonesia, Sri Lanka, Thailand and India. The main findings were: most persons interviewed became aware of their status as a result of the tsunami and the medical services offered in its aftermath, which included HIV testing, and went onto treatment; ART access remained fairly constant; economic livelihoods declined; PLHIV were found by other PLHIV (via positive networks); and strong stigma and discrimination were apparent in communities. The study suggests that the lives of some PLHIV in India were actually saved because they were tested, found positive and able to access treatment and care services. In addition, treatment and care were made possible where either i) they were previously not available or ii) those previously unwilling or unable to be tested were in a situation where testing was possible and encouraged. The assessment also noted an increase in taking medication for OIs.

### **5.3 Disruption of services: Slow-onset natural disaster**

Over the past few decades, the southern and eastern Africa region has been vulnerable to drought and resulting food shortages and famines. Additionally, most countries have faced constrained institutional capacity for decades. The scale of the HIV epidemic in this region has exacerbated these existing fragilities, with increasing AIDS-related absenteeism and death cutting the supply of human resources and increasing and changing the demand profile. In the service-oriented sectors (health, agriculture and education), AIDS deaths reduce the quality and quantity of services through the direct loss of skills and institutional memory. Countries in this region also face critical national-level inequalities in access to health and other basic services, with urban areas and economic hubs generally having better service infrastructure and provision. Rural areas are often relatively neglected. These areas are hit the hardest by slow-onset emergencies, so what little provision of services exists is likely to become overstretched during a drought. Additionally, longer-term concerns surrounding HIV and AIDS may be not a priority when faced with the immediate survival-threatening issues wrought by drought and food insecurity (see UN 2003). These different layers of crises also heighten vulnerability (see Section 3.3) to contracting HIV. As such, prevention services and products, e.g. testing facilities, condoms and IEC materials, as well as ART, need to be made available.

Zimbabweans continue to face a particularly severe triple-threat humanitarian crisis, to which are added political violence and the politicisation of access to aid and HIV-related services. This results in various degrees of displacement: forced displacement in the case of Operation Murambatsvina resulting in several thousands of IDPs; migration of Zimbabweans to South Africa and Botswana as 'irregular' migrants; and the various low-level and often temporary displacements of people in rural areas, especially during the election campaign. As nearly half of the population has had their livelihoods eroded by severe macroeconomic decline and precarious food security, all people, whether displaced or not, are directly affected and have heightened vulnerability to HIV as well as additional requirements with regard to treatment and care: official UN statistics show that HIV infection is at 24.6%, one of the highest in the world (Pambazuka News 2007). Roughly three million people in Zimbabwe are infected with HIV, but only 50,000 of them have access to ART. Zimbabwe also has the world's highest orphan rate, largely as a consequence of HIV and AIDS (UK House of Commons 2007).

As a result of emergency situations, informal networks (see Samuels et al 2007) often drawn on begin to disintegrate. HBC programmes, which bridge communities and formal health providers and provide crucial services to PLHIV, in terms of both care and stamping out stigma and discrimination (see Campbell and Foulis 2004; Mataure and Nyatsanza 2005) are also affected and disrupted during emergencies, when caregivers themselves are struggling to survive (see Drimie 2004). The case study in northern Kenya showed similar impacts on less formalised HBC

structures and the difficulty of establishing a HBC system within the context of a slow-onset emergency. Despite high needs, many people living in emergency-affected rural areas do not have access to health services, including HIV services. Even major health centres suffer from inadequate staffing levels and lack of essential equipment, supplies and medicine. Providing PMTCT services in this environment is a real challenge, further complicated by population movements caused by the drought. Additionally, children who are infected require specific care and support, which are also difficult to access during drought situations. As one HIV-positive mother said, 'during the drought, things are difficult. For instance, I used to breastfeed my baby a lot because many times there was nothing to give the baby ... I wish the doctors had told me about PMTCT so that I could have saved my child from this problem.' This trend is likely to increase with worsening food shortages and general socioeconomic distress (see also Section 5.1).

ART services face similar challenges; in addition, lack of food has become a major obstacle to ART adherence, as we have seen. Providing adequate VCT services is also difficult in Turkana, for reasons mentioned above, and even more so in the face of high levels of stigma. A survey by Oxfam and Merlin (2005) of communities in northeast Turkana showed that only 2.2% of respondents had ever tested for HIV. Only 31.3% had ever heard of VCT, and only 16.4% could correctly describe the services offered in a VCT centre. The same study showed relatively low condom awareness (58.8%), with 54.1% of female respondents and 63.9% of male respondents being aware of the male condom. According to the head of the Kalokol health centre, 'it takes very long before the condom dispensers need to be refilled ... I don't think many people use condoms here. Our dispenser is hardly restocked because no one uses them ... probably low condom use in this region could be attributed to cultural beliefs and low formal education.'

In the Kenya case study, findings showed that PLHIV did not have the social support networks that others rely on during emergencies, since stigma excludes them, especially when their HIV status is known. Hence PLHIV lose not only their assets but, unlike the rest of the population, lose social capital. All this leads to further marginalisation.

The ongoing drought in northern Kenya has also had a negative impact on water sources for domestic, livestock and agricultural use. Communal dams and wells are continually depleted and in some cases dried up completely. There is also evidence that the water level in Lake Turkana is receding. This has an effect on sanitation and hygiene: with less and stagnating water, the risk of contamination increases, thereby elevating the prospect of infections. This is particularly true among PLHIV, who are at greater risk of acquiring illnesses. The emergency has also had a negative effect on the ability of some families to provide basic education and material support to children. According to respondents, the effects of chronic drought, poverty, insecurity and cultural practices have a direct impact on education, with many children, especially girls, dropping out of school in order to help with household chores. This practice intensifies during emergencies.

## 5.4 Overall summary

Lack of access to condoms is an issue during all kinds of emergencies, although access is problematic even at other times. Across all case studies, no major disruption of ART supplies was found because of good contingency planning (Haiti), but also because of relatively small numbers of ART clients (Sri Lanka, rural/flood-affected Mozambique, northern Kenya). Lack of access to food, especially in slow-onset emergencies, but also more widely, is critical for adherence to ART; lack of food is directly linked to non-adherence, as seen in northern Kenya and Mozambique. In ongoing conflict situations, access to services is a challenge because of unwillingness of health staff to be posted to danger zones and difficulties for patients reaching health providers. The latter is also true in slow-onset natural disasters, where the burden of transport costs prohibits people from accessing health services. Especially in low-prevalence countries facing rapid-onset natural disasters, HIV services came on the back of the emergency response and filled an existing gap.

## 6. Conclusion

This paper set out to contribute towards the development of a typology and conceptual framework for understanding the impact of different emergency types on HIV and vice versa. It was felt that the existing literature and guidelines relating to HIV and emergencies too often treated very different emergency types and contexts in a homogenous way and that there was a need for a more nuanced understanding of the interactions between HIV and different types of emergencies. The paper has attempted to organise evidence from the existing literature and case studies conducted as part of this research according to the three different types of emergencies. For each, it has asked how they affect vulnerability to transmission of HIV, how they affect people's ability to cope with HIV and AIDS and how they affect health and other HIV- and AIDS-related services.

Generally, it can be said that there is less information on the impacts of emergencies on HIV in countries with mid/low HIV prevalence and in particular countries facing rapid-onset natural disasters, which to all accounts are becoming increasingly common. On the other hand, there are considerable secondary data on HIV in conflict and post-conflict situations. Additionally, in countries with overlapping emergencies, e.g. Haiti and Mozambique, which are both conflict/post-conflict states affected by rapid-onset natural disasters, more attention is usually paid to the conflict-related emergency and its relationship to HIV.

The literature review found little concrete data on the effects of emergencies on particularly vulnerable groups, including CSWs and their clients, MSM, IDUs and older people. This was the case for both high- and mid/low-prevalence countries but is particularly relevant for countries with mid/low prevalence since these groups are crucial to curbing the epidemic. The case studies provide further information on these vulnerable groups, especially on the impact of different types of emergencies on sex workers and changing patterns of sex work, but there is still need for further exploration on how these groups are affected by emergencies and by HIV and how these issues could be included in a response (see also below).

One of the main points of the paper was to emphasise the need for context- and emergency-specific responses to the challenges of addressing HIV in humanitarian crises. This makes it difficult to generate broad conclusions. Nonetheless, there were some interesting recurring themes in the literature review and case studies.

It emerges from this study that emergencies do not tend to disrupt ART supplies as much as is often feared. This owes mostly to strong contingency planning on the part of the treatment providers to ensure continued supply and access and the strong desire and initiative shown by people on treatment themselves. However, limited ART disruption can also be explained by the fact that, in these emergency settings there are still relatively few people on ART. If and when increased numbers of people go onto ART, the considerable logistics that this implies may in fact create more opportunities for people to default during emergency situations.

Another clear finding is that, even when ART supplies are not disrupted, adherence can be severely affected by emergency-related circumstances, especially continuous lack of food. Clearly, there are many other reasons why adherence can be disrupted, including stigma and individuals feeling better, thus deciding to go on a 'treatment holiday'. In rapid-onset disasters, the necessary short-term food assistance is usually swiftly forthcoming, but this is often not the case in drought emergencies, where this assistance often comes too late, is not on the necessary scale or does not have the adequate beneficiary targeting mechanisms (including targeting PLHIV). Similar challenges occur in some conflict settings as well, especially for non-displaced populations, whose livelihoods are affected and destroyed by violence but who are not in receipt of direct humanitarian relief provided to displaced populations in refugee or IDP camps.

The possibility of increased risks of transactional sex as a coping strategy during all kinds of emergencies emerged strongly from both the literature review and the case studies. This was probably to be expected, but the extent to which it was stressed as an increased risk factor in conflict settings as well as in rapid- and, especially, slow-onset natural disasters in the case studies was perhaps surprising. By the very nature of transactional sex, women are placed in more vulnerable positions and are increasingly exposed to violence, which in turn results in the increased risk of HIV transmission. At the same time, when compared with CSWs, these women, who engage in less formalised and often more occasional transactional sex, seem to be less able to negotiate safe sex. The importance of transactional sex as a negative coping strategy in the face of disasters and damaged livelihoods has possibly been underestimated and warrants both further research and greater policy attention.

Linked to the above, and also occurring in all types of emergency, was the fact that a combination of increased transactional sex and an influx of mobile groups, such as truck drivers and humanitarian workers (in slow- and rapid-onset natural disasters) and military personnel (conflicts), caused rising vulnerabilities to contracting HIV. Increases in rape and other forms of SGBV can also increase the risk of HIV transmission, especially in conflict/post-conflict settings.

A theme that resounded in all the case studies, whatever the type of emergency, was the lack of availability of and access to condoms. Although most people now know their centrality as a key HIV prevention technology, they were not able to access them. This was not necessarily a result just of the emergency (in fact, in some cases, the emergency resulted in more free condoms being available than previously, e.g. Mozambique), rather of the situation existing in the country prior to the emergency. In Haiti, for instance, condoms were not freely available, and even the relatively low cost was beyond most people's range. The case studies showed that condoms were particularly critical in rapid-onset natural disasters, since such kinds of disasters in particular were associated with an increase in consensual sex; this increase was particularly in evidence in the context of shelters. Although this possibility might also exist in refugee/IDP camp settings, the particularities of such camps, including the length of time people remain in them and the extent of social adjustment, would need to be looked at more closely to understand whether the dynamics and impacts are indeed similar with regard to an increase in consensual sex.

A consistent theme from the case studies was the relative neglect of the particular issues relating to those groups most at risk from the HIV epidemic, notably MSM, CSWs and IDUs, and their particular vulnerabilities during emergencies. Given the particular importance of these groups in the spread of the epidemic, particularly in low-prevalence countries, there is a strong case for a greater focus on ways in which emergencies may shift their vulnerabilities and risks of transmitting the disease. This is related in large part to stigma against these particular vulnerable groups, as well as stigma towards PLHIV in general. This continues to be a major hindrance to efforts to curb the spread of the epidemic.

While the case studies could not find evidence of clear patterns of an increase in stigmatisation as a result of the different types of emergencies, it emerges that already existing stigma has a far bigger negative impact during emergencies. Especially in slow-onset natural disasters, the loss of social capital and exclusion from community support mechanisms are key challenges for PLHIV, as they severely undermine coping capability as well as ability to recover and hence resilience to future emergencies. In rapid-onset natural disasters, stigma often leads to PLHIV not disclosing their status and therefore sometimes not being able to access humanitarian services that reflect their specific needs. In conflict situations, stigma often (though depending on the particular conflict scenario) takes on a further dimension, especially in low-prevalence civil war settings (e.g. Colombia), where various armed groups embark on a 'social cleansing' campaign that directly threatens the lives of PLHIV and people who support them, making prevention, care and treatment much more difficult or in some situations even impossible.

Linked to the above, in all emergency settings, family, friend and neighbour networks are key coping strategies ('social capital'), but these are often threatened by stigma and discrimination, resulting, therefore, in increasing vulnerabilities and marginalisation of PLHIV.

One finding that emerges from the case studies, and in particular from Sri Lanka (but seems to have been the case for other countries affected by the tsunami), and could well be the case for other low-prevalence countries affected by emergencies, is the extent to which HIV-related prevention and treatment came 'on the back' of the emergency response (e.g. as part of the medical relief effort). This adds more weight to a push for actors in the humanitarian response and organisations with a primary focus on responding to the HIV epidemic to work together: the latter could learn from the former in terms of, for instance, speed of provision of services and general logistical capacity, whereas the former could learn from the latter in terms of longer-term perspective of HIV- and AIDS-related interventions. Unfortunately, this study found a relative separation between these agencies and actors. Even in the high-prevalence areas of southern Africa, where these links could have been made most strongly, there appears to be a continuing divide, which inhibits the mainstreaming of HIV concerns into humanitarian responses.

It has also emerged from this research that duration of an emergency is crucial to assessing PLHIV coping ability: the case study on the northern Kenya drought has clearly shown that PLHIV are getting disproportionately more affected, as compared with non-PLHIV, the longer the emergency situation persists. Their ability to recover becomes more severely limited and they often tend to remain in a 'micro-emergency' even when other parts of the population start to rebuild their livelihoods.

The case studies show that it is vital not just to look at certain population groups or types of interventions, but also to understand the dynamics and the shifting patterns of vulnerabilities and coping mechanisms caused by different emergencies in various ways. Understanding these changes is crucial to being able to intervene most effectively. While female sex workers and their clients, for example, are generally classified as high-risk groups with regard to HIV infections, the five case studies show that the impact of emergencies on sex work is very different across the various settings. In Sri Lanka commercial sex work initially decreased as a result of the tsunami, but it increased during the floods in Mozambique, though largely because of sex workers coming from other parts of the country, attracted by humanitarian aid workers and truck drivers. Similarly, in CAR, many commercial sex workers are attracted by soldiers, who are one of the few groups still with a disposable income; however, with more displaced women entering into occasional transactional sex as a result of the conflict and loss of livelihoods, competition is increasing and new groups are made vulnerable. Such changing patterns of sex work and transactional sex are also evident in northern Kenya, where migration patterns and a shifting client base towards long-distance truck drivers are creating new patterns of sex work, which need to be understood in order to plan prevention measures accordingly. The area of sex work alone shows that impacts of emergency situations can go in various directions and that general assumptions need to be re-examined each time.

In conclusion, our framework (see Table 1) shows that there are both similarities and differences in the nature of emergencies and in their impacts on vulnerability, ability to cope and service provision. Despite any similarities, however, the translation of these impacts into new HIV-infections depends largely on prevalence settings, mobility and the types of populations interacted with. This re-emphasises the need for a contextual analysis of a humanitarian crisis situation with regard to its HIV needs and implications, instead of the application of a standard set of interventions. Although normative guidance is required to help mainstream the issue of HIV into the humanitarian response process, the study shows that one can clearly not assume that the same priorities and needs occur in the same way across all emergency types, prevalence settings and political and cultural contexts.

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Annex 1 Global drought and persons affected

