Africa's missing billions

International arms flows and the cost of conflict

Africa suffers enormously from conflict and armed violence. As well as the human tragedy, armed conflict costs Africa around $18bn per year, seriously derailing development.

The most commonly used weapons in Africa's conflicts are Kalashnikov assault rifles. The vast majority of these weapons and their ammunition – perhaps 95 per cent - come from outside Africa.

To protect lives and livelihoods, the 2008 UN Group of Governmental Experts working on the Arms Trade Treaty must ensure swift progress towards a strong and effective Treaty. All governments have a role to play in ensuring its success.

WITH A FOREWORD BY ELLEN JOHNSON-SIRLEAF

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Foreword

As an economist, I am acutely aware of the devastation to African economies due to armed violence. In my own country, conflict has led to the squandering of rich mineral, agricultural, and human resources that should have benefited Liberia and its people. Although economic recovery has begun, it will take many years to recover from the destruction of infrastructure, the damage to businesses, and the loss of life and livelihood.

It is for this reason that I welcome this groundbreaking report from IANSA, Oxfam, and Saferworld, which for the first time quantifies what many of us know – that on top of the human misery suffered by millions during armed conflict, these conflicts cost Africa billions of dollars each year.

This is money Africa can ill afford to lose. The sums are appalling: the price that Africa is paying could cover the cost of solving the HIV and AIDS crisis in Africa, or provide education, water and prevention and treatment for TB and malaria. Literally thousands of hospitals, schools, and roads could have been built, positively affecting millions of people. Not only do the people of Africa suffer the physical horrors of violence, armed conflict undermines their efforts to escape poverty.

This report goes on to highlight the global nature of the problem of one of the key drivers of armed conflict – the proliferation of weapons. Concluding that nearly all of the weapons used in African conflicts are not made in Africa, the need for global action to control the trade in weapons and prevent weapons, especially small arms, reaching Africa's conflict zones is brought into stark relief.

At this critical time for reaching agreement on tough international controls on the arms trade through an Arms Trade Treaty (ATT), it is essential that all governments understand the economic costs of armed violence and the impact that cost has on development.

I call on the governments of Africa and the world to be bold in our work towards the ATT. The treaty provides an opportunity to agree tough controls on the arms trade that would significantly help reduce armed violence in Africa and across the world, an opportunity that is truly priceless.

Ellen Johnson-Sirleaf
President of Liberia, August 2007

Summary

For the first time, IANSA, Oxfam, and Safeworld have estimated the economic cost of armed conflict to Africa's development. Around $300bn since 1990 has been lost by Algeria, Angola, Burundi, Central African Republic, Chad, Democratic Republic of Congo (DRC), Republic of Congo, Côte d'Ivoire, Djibouti, Eritrea, Ethiopia, Ghana, Guinea, Guinea-Bissau, Liberia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, Sudan and Uganda.

This sum is equivalent to international aid from major donors in the same period. If this money was not lost due to armed conflict, it could solve the problems of HIV and AIDS in Africa, or it could address Africa's needs in education, clean water and sanitation, and prevent tuberculosis and malaria.

Our research estimates that Africa loses around $18bn per year due to wars, civil wars, and insurgencies. On average, armed conflict shrinks an African nation's economy by 15 per cent, and this is probably a conservative estimate. The real costs of armed violence to Africans could be much, much higher.

The costs are incurred in a huge variety of ways. There are the obvious direct costs of armed violence – medical costs, military expenditure, the destruction of infrastructure, and the care for displaced people – which divert money from more productive uses. The indirect costs from lost opportunities are even higher. Economic activity falters or grinds to a halt. Income from valuable natural resources ends up lining individual pockets rather than benefiting the country. The country suffers from inflation, debt, and reduced investment, while people suffer from unemployment, lack of public services, and trauma. More people, especially women and children, die from the fall-out of conflict than die in conflict itself.

The research carried out for this report has estimated that the cost of armed conflict to Africa's development has been a shocking $284bn since 1990. Although high, this is almost certainly an under-estimate. For a start, this calculation only covers the cost of armed conflict, not armed crime. Further, our calculation only covers periods of actual combat but some costs of war, such as increased military spending and a struggling economy, continue long after the fighting has stopped. Neighbouring countries also suffer economically, due to reduced trade, political insecurity, or an influx of refugees.

The evidence also suggests that at least 95 per cent of Africa's most commonly used conflict weapons come from outside the continent. The most common weapon is the Kalashnikov assault rifle, the most well-known type being the AK-47, almost none of which are made in Africa.

A steady supply of ammunition is required to keep arms deadly, but little military ammunition is manufactured in Africa. Although it is impossible to demonstrate precisely, our research suggests that the vast majority of ammunition has to be imported from outside Africa.

If armed violence is this costly and most of the weapons come from outside Africa, then Africa desperately needs to stop the flow of arms to those who

abuse human rights and ignore the rules of war. As well as looking at the *demand* for weapons, strong initiatives must be taken to restrict *supply*. Many African nations, recognising the threat to their development from irresponsible arms transfers, have already made significant efforts towards arms control.

However, many African governments feel let down by the international community. They know that the arms trade is globalised, and that national or regional regulations, although absolutely vital, are not enough.

Africa, as elsewhere, needs new international standards on arms transfers – a strong and effective Arms Trade Treaty (ATT). Such a treaty would not prevent the responsible transfer of weapons for defence, policing, peacekeeping, and other legitimate purposes, but it must prohibit arms transfers if they are likely to be used to:

• Commit serious violations of international humanitarian law;

• Commit serious violations of international human rights law;

• Undermine sustainable development.

Although the causes of armed violence are many and highly complex, and require a variety of actions to be taken, we believe that an ATT based on these principles would be one important tool in reducing armed violence in Africa.

At the moment, there are international negotiations working towards such a treaty. So far, African support for an ATT has been crucial to its success. Negotiations in the United Nations are reaching a critical stage. It is vital for governments, in Africa and around the world, to support these negotiations and demand a strong result.

There is an urgent need to reduce the international supply of arms and ammunition to Africa. Otherwise the cost to African development – measured not just in dollars wasted but in lives shattered and opportunities squandered – will remain immense.

1 Introduction

This report moves beyond what is already clear: that armed violence is one of the greatest threats to development in Africa. It investigates the high costs of armed violence to Africa, looks at where the weapons come from which feed this violence, and then highlights one important area where progress is urgently required at both African and international levels. This report will not attempt to address the complex causes of armed violence, but instead will focus on the arms that fuel, prolong and intensify this violence.

This report will focus primarily on Africa's armed conflicts – partly for methodological reasons, and partly because their impact on people and economies is most severe. But this should not imply that armed violence is caused only by armed conflicts. Africa's experience of armed violence comes from both armed conflict and armed crime (with increasingly blurred distinctions between the two), sustained and made more lethal by the supply of arms and ammunition.

Globally, an estimated 1,000 people die every day due directly to the use of small arms.[1] But this figure captures only a fraction of the human impact. For conflicts, the greater part of the human cost results not from deaths and injuries due to combat but indirectly from the loss of health and livelihoods caused by the disruption of economy and society. Across nine African conflicts, indirect deaths were 14 times greater than deaths occurring in combat.[2]

Even though the number of armed conflicts is falling,[3] there is no room for complacency. Thirty-eight per cent of the world's armed conflicts are being fought in Africa,[4] and in 2006, almost half of all *high-intensity* conflicts were in Africa.[5] There are still conflicts where the human toll is enormous and currently with little hope for a swift settlement (e.g. Darfur, Somalia), as well as a considerable number of protracted and lingering conflicts (e.g. Algeria, Democratic Republic of Congo (DRC)), and the tendency for conflicts to become regionalised or internationalised, involving other countries (for example, the conflict in Darfur has drawn in neighbouring Chad and the Central African Republic).

These conflicts prevent development. Paul Collier, Professor of Economics at Oxford University, defines conflict as one of four 'traps' that keep the world's poorest countries poor and confine the world's 'bottom billion' people to a life of poverty in stagnant or shrinking economies.[6] Africa is further from attaining the Millennium Development Goals (MDGs) than any other region[7] and armed

conflict is one important factor in this.[8] Compared to peaceful countries, African countries in conflict have, on average:

- 50 per cent more infant deaths[9];
- 15 per cent more undernourished people;[10]
- Life expectancy reduced by five years;[11]
- 20 per cent more adult illiteracy;[12]
- 2.5 times fewer doctors per patient;[13] and
- 12.4 per cent less food per person.[14]

The value of the Human Development Index (HDI) drops, pushing the average conflict country from medium to low development,[15] and GDP per capita is reduced by $1120 (63 per cent).[16] Of course, costs are not borne equally across the population, and inequalities often rise as many conflicts are fought along regional, social, religious, or ethnic lines.

In non-conflict situations, Africa is also disproportionately affected by violence from firearms. It has 14 per cent of the world's population but 20 per cent of the world's firearm homicides, second only to Latin America.[17] This is perhaps not surprising, as the guns made available through armed conflict are one factor dictating levels of armed crime.[18]

Data on armed crime in Africa are in short supply, but anecdotal evidence suggests that it is rising in a number of countries. According to law enforcement officials, armed robbery increased sharply in Ghana from 1999 to 2001 (latest figures);[19] in Kaduna, northern Nigeria, firearms homicide increased by over 130 per cent in 1999–2000[20] and there has been a rise in gangster violence, including a proliferation of armed 'cults' in institutions of higher learning.[21] In northern Kenya, livestock rustling, banditry, and insecurity involving pastoralists have become widespread and increasingly severe, with women and children constituting around a quarter each of all deaths.[22]

What is crucial here is that this is *armed* violence. Just as the continuing supply of arms and ammunition sustains and increases the lethality of conflicts, so arms increase the deadliness and widen the impact of societal violence, domestic violence, and crime. For example, in Nigeria, researchers have linked the increase of crime in Lagos, with the increase in availability of firearms[23]. In a survey of over 200 people, the infiltration of arms was given as a major cause of armed insecurity in northern Kenya[24]. In a well-armed community, fist-fights become fire-fights, leading to an 'arms race' in which young men feel the need to be armed.[25]

As the Kenyan Foreign Minister said, 'Conflict is part of the history of mankind. My part of the region is no exception to this historical fact. There are enough reasons to cause conflict like religious, ethnic and clan difference. Poor people tend to have even more causes for conflict. But when guns get into the calculus then it becomes a recipe for disaster.'[26]

Reducing levels of armed violence requires many actions to be taken by African governments and by the international community, in diverse areas such as conflict prevention, governance, and disarmament. IANSA, Oxfam, and Saferworld members are working in many of these areas. We acknowledge and recognise the multi-faceted nature of the issue and that the root causes of armed conflict in Africa – such as poverty, poor governance, and inequality – must be addressed. Indeed, these factors can lead to a high demand for arms and there is a need for more work to address this.

However, this particular report does not aim to be comprehensive in its search for solutions. It has been written to support discussions on the Arms Trade Treaty (ATT) currently under consideration in the United Nations. The research for this paper confirms what we intuitively know, that the vast majority of weapons used in Africa are not made in Africa. So as one key part of the solution, we must look at arms flows into Africa.

2 Counting the cost of armed conflict

In new research for this report, we have estimated the economic cost of armed conflicts to Africa's development. Because of methodological challenges and weaknesses in the data, the results are approximate but they will, for the first time, provide a figure to help show the scale of the threat facing development in Africa.

Our estimation

There is no standardised methodology to calculate the cost of conflict. We have used a method similar to that used by Stewart and Fitzgerald, in their influential *War and Underdevelopment*,[27] where they used the fall in gross domestic product (GDP) as a measure of costs in 14 conflicts. GDP shows the combined value of all goods and services produced in one year, and will be seriously affected by armed conflict in a variety of ways; Section 3 explains how this happens. This method (see below and further in the Appendix) is robust enough to provide an order of magnitude result.

Using the definitions from the Heidelberg Institute for International Conflict Research, Conflict Barometer,[28] we looked at 23 African countries that experienced armed conflict or severe violent crisis, between 1990 and 2005.[29] This included all African conflicts in this period, apart from Somalia for which there are no data. We calculated what the GDP of each of these countries *would* have been had there been no conflict, by applying the average economic growth rate of countries at a similar economic level to that of the country in conflict. The growth foregone is revealed by finding the difference between each country's actual GDP and this projected GDP. Figure 1 demonstrates the result for Burundi.

Figure 1: Cumulative GDP loss for Burundi
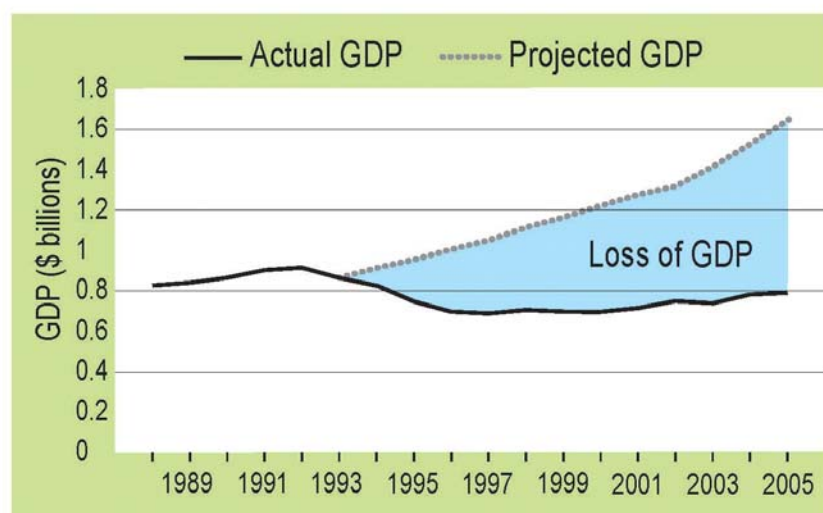
This method will underestimate the true figure because it does not include:

- International costs: humanitarian aid, peacekeeping etc;

- The economic impact on neighbouring peaceful countries;

- The lingering economic impact once the conflict has been officially resolved – our estimation only covers the war years.

Further information on neighbouring countries and long-term impacts are included in Section 3. Just to reiterate, we have only estimated the costs of armed conflict, not economic losses due to crime or societal violence.

We have deliberately taken this conservative approach to ensure that the calculation does not exaggerate the cost of armed conflict to Africa's development. **It is therefore particularly shocking that the**

cost estimated for those 23 countries is $284bn (in constant year 2000 $) from 1990 to 2005, representing an average annual loss of 15 per cent of GDP. This amounts to an average of $18bn per year lost by Africa due to armed conflict. These figures are of course approximate. What is most telling, is that they are likely to underestimate the true cost.

This is a massive waste of resources – roughly equivalent to total international aid to Africa from major donors during the same period.[30] It is also roughly equivalent to the additional funds estimated to be necessary to address the problems of HIV and AIDS in Africa, or to address Africa's needs in education, clean water and sanitation, and help prevent the spread of TB and malaria.[31]

The average annual loss of 15 per cent of GDP represents an enormous economic burden – this is one and a half times average African spending on health and education combined.[32]

The table below gives some of the results per country as an illustration. Unsurprisingly, we find that in general, countries with bigger economies produce the biggest dollar losses, and long-lasting and widespread conflicts produce the biggest loss as a percentage of GDP. So although the dollar loss in Eritrea, for example, seems tiny in comparison with DRC, the loss is still 11 per cent of GDP, representing an enormous economic burden. Again, it must be underlined that GDP data from conflict countries are not always reliable. The figures below should be regarded as estimates rather than precise calculations.

Table 1: Selected country results for the cost of conflict

Country	Conflict years	Number of years	Projected growth[*]	Actual growth[*]	Loss as % of GDP[**]	GDP loss ($bn)
Burundi	1993–2005	13	5.5%	-1.1%	37%	5.7
Rwanda	1990–2001	12	4.5%	2.8%	32%	8.4
DRC	1996–2005	10	5.4%	0.10%	29%	18
Eritrea	1998-2000	3	4.8%	-3.8%	11%	0.28
Republic of Congo	1997–99	3	3.3%	0.03%	7.1%	0.70
South Africa	1990-96	7	1.2%	1.2%	2.7%	22

* Average of annual growth during war years.
** Average of annual loss as percentage of predicted GDP.

Other calculations of the cost of Africa's conflicts

There are very few data with which to compare these figures.

- A review of 14 studies using different methodologies found widely differing estimates, with an average cost of 17.6 per cent of GDP per annum.[33]

- Paul Collier and others used regression analysis to estimate that the average civil war reduces GDP by around 2.2 per cent per annum.[34]

- Stewart and Fitzgerald studied nine African conflicts from 1970 to 1995; the average loss was 10.5 per cent per annum.[35] This was expected to be an under-estimate due to lack of data for four countries.

For the damage caused by Uganda's activities in the north eastern part of the DRC, the International Court of Justice (ICJ) ruled that Uganda should pay reparations.[36] The ICJ agreed that the DRC's estimate of the bill – $6bn–$10bn – was appropriate; $6bn represents an annual loss of 21 per cent of GDP. Our calculations are similar: around $18bn reduction in GDP, representing 29 per cent of GDP. Our higher values are due to the longer time frame (11 rather than five years) and the fact that our calculation would also capture the broader impact of the war beyond that associated with the Ugandan presence.

More than $20bn per year?

Our estimate of the cost of armed conflict to Africa is around $18bn per year. We have not attempted to calculate the cost of armed crime and other violence, despite its importance. To date, no studies have quantified the cost of societal violence and crime in Africa.

Further data on armed crime and the effects of armed violence in Africa will be published in 2007 and 2008.[37] In particular, the World Health Organization and the Centers for Disease Control and Prevention have developed guidelines for estimating the economic costs of injuries due to interpersonal and self-directed violence,[38] and studies are currently ongoing in Uganda, Tanzania, and Kenya. In Brazil and Colombia, similar studies estimated the total costs of gun violence at 0.5 per cent and one per cent of GDP respectively.[39]

When the African reports are available, it may be possible to calculate the cost to Africa's development of armed violence outside of conflict. It may be possible to answer the question: does armed violence cost Africa more than $20bn per year in lost development?

3 Breaking down the costs of armed violence

To the national economy

The economic costs of armed violence represent resources lost to society that could have been invested in projects that benefit the economy and population.

- Direct costs: arise directly from violence and involve actual expenditure;

- Indirect costs: represent lost resources and opportunities;

- Intangible costs: do not have a price tag but fundamentally affect people's lives and their capacity for development.

The table below presents the broad categories of costs.

Table 2: Key costs to the national economy in the context of armed crime/societal violence and conflict[40]

Cost	Armed Crime	Armed Conflict
Direct costs		
• Medical/rehabilitation costs due to casualties, injuries, disability	✓	✓
• Policing, criminal justice system, private security	✓	
• Military expenditure		✓
• Care for refugees and displaced people		✓
• Physical destruction: loss/depletion of infrastructure and livelihood assets		✓
Indirect costs		
• Reduced economic activity due to insecurity, reduced mobility, reduced workforce (through casualty or brain drain), capital flight. This includes tourism.	✓	✓
• Macroeconomic impacts: inflation, reduced savings, investment, and exports; increased debt		✓
• Loss of development aid		✓
• Wealth transferred to illicit economy		✓
Intangible costs		
• Health-related quality of life: suffering, psychological impact	✓	✓
• Other quality of life: reduced job opportunities, access to schools, public services	✓	✓
• Loss of social capital	✓	✓

These are all real costs to each country involved but not all will be noted as a drop in GDP, because GDP captures the market value of all goods and services produced, whether these increase wellbeing in the country or not. [41] GDP will be reduced by most of the indirect costs; but most of the direct costs represent 'unproductive expenditure' i.e. extra expenditure due to the insecurity.

Diversion of resources from productive expenditure

There are two factors at play which reduce productive expenditure:

1. *Total* income to governments and the vast majority of households falls in times of armed conflict. At state level, the collection of domestic and border taxes dwindles catastrophically due to losses in taxable production, tax evasion, and low administrative capacity.[42] This is exacerbated by decreasing external balance, soaring foreign debt, accelerating inflation, and budget deficit.

2. The *proportion* of state expenditure diverted into conflict-related activities – both military spending and combat-related health care – will probably rise at the expense of investment in essential services. At household level, families may have to spend money on healthcare for injuries, which will prevent them, for example, from sending their children to school.

Government social expenditure per head fell dramatically during the wars in Angola, Ethiopia, Liberia, Somalia, and Uganda.[43] According to the World Health Organisation, treating large numbers of patients with gunshot wounds in Africa 'has a draining effect on basic health care and diverts much-needed resources from other health and social services'.[44] The same is true at household level; in South Africa, a significant proportion of non-fatally injured patients are forced into debt to pay medical expenses resulting from firearm injuries.[45]

Proportions of direct, indirect, and intangible costs

Although no studies have been undertaken in Africa, studies from elsewhere clearly show that for societal violence and crime, intangible quality of life costs are the greatest, followed by the indirect cost of productivity losses, and finally by direct medical costs.[46] If indirect costs are higher for societal violence, then this trend will be even more pronounced for conflict situations.

There are too few data to say how the GDP loss during armed conflict is apportioned. There is only one example in Africa where there has been an attempt to quantify the costs of conflict by counting individual costs (rather than modelling). This study of the cost of conflict in northern Uganda found that the key costs were: [47]

• Military costs (relating only to the war in the north of the country): 28 per cent of total costs;

• Losses to agriculture and livestock, the mainstays of the region: over 20 per cent;

• Lost income from tourism: almost 14 per cent;

• War-related medical costs: over 10 per cent.

It is expected that different costs will be more prominent in different contexts. For example, the cost of the material damage during the Rwandan genocide was around $1bn, whereas reconstruction for the DRC is estimated at $20bn.[48]

As an illustration, each category of cost is briefly explored below.

Direct costs, with a focus on medical expenditure

Direct costs arise directly from violence and necessitate real payments. Direct costs include the cost of maintaining security – such as increased military expenditure and costs for policing and justice – as well as the cost of dealing with refugees and IDPs and the loss/depreciation in assets (both in terms of major infrastructure and also household assets such as animals and farmland).

Medical costs are one of the most obvious direct costs caused by armed violence. It is important to note that often these costs are not actually met; one study in Ghana found that in rural regions only 51 per cent of persons with gunshot injuries receive care at a hospital or clinic,[49] and elsewhere the chronic shortage of hospital facilities and the limited access of poor people to these facilities results in wounds becoming infected and in the death or disability of victims.[50]

Costs cannot be generalised and, obviously, are specific to different situations and injuries. Box 1 below gives one example. In Uganda, the direct costs of treating firearm injuries are around $0.5m per year, around 80 per cent of which is paid for by the government. The out-of-pocket costs average $58 per victim, more than several months' salary for most victims, a significant burden.[51] In Kenya, a spinal injury caused by firearms costs around $23,815 per year; this includes the cost of a wheelchair, treatment, food, drugs, etc.[52]

Gun violence especially impacts young men, who may have long productive futures ahead of them. Men aged 15–29 account for half of all non-conflict firearm homicide victims globally. Anecdotal evidence from Africa suggests that men are the major victims of gunshot injuries. In four studies from Kenya, Nigeria, and Uganda, the male:female ratio for such injuries ranged from 6:1 to 12:1.[53] In South Africa, homicide primarily involving firearms was the leading cause of death among men aged 15–21.[54]

It is worth noting that violence committed with firearms generates higher costs than violence committed with other weapons, due to the serious nature of the injuries caused. For example, the average gunshot injury in the USA costs 50 times more than the average cut/stab wound.[55]

> **Snapshot 1: The cost of a bullet**[56]
>
> Dr. Walter Odhiambo, a surgeon from Kenya, tells the story of a 17-year-old Congolese boy whose jaw was shattered by a bullet. The son of a diamond prospector, he was shot by rebel soldiers who thought he had diamonds. It took him one year to raise the money from friends and family to have it treated. During this time, he kept his disfigured mouth covered. He travelled 3,000km to Nairobi for the operation to insert a steel plate into his jaw, which took nine hours and cost $6,000.
>
> The cost of the operation is equivalent to a year of primary education for 100 children, or full immunisations for 250 children, or 1.5 years of education for a medical student.

In armed conflict, the medical impact of combat injuries is dwarfed by the other medical impacts of the conflict. These include higher rates of disease and infection (from population movements, concentrations of people, and lower levels of resistance due to poor nutrition), water- and sanitation-related issues, malnutrition, higher rates of sexually-transmitted diseases, etc.

Studies show that although women are often not targeted in combat as directly as men, women experience as much[57] or more[58] mortality in the long run. Women suffer seriously and exclusively from lack of maternal health services, as well as facing extremely high levels of rape and HIV infection. During the conflict in Sierra Leone, more than half of women experienced some type of sexual violence.[59]

Indirect costs, with a focus on lost production

Indirect costs result from opportunities lost. Much of this involves the diversion of resources – development projects that are suspended due to insecurity, income from natural resources siphoned away from the formal economy (thus lining individual pockets rather than benefiting the country) - and the impact of severe economic decline (rising inflation, increased debt, reduced exports, etc.).

One key cost is reduced economic activity, which can be an enormous loss in armed conflicts. In agriculture, this goes beyond the personal tragedies of families and communities who have their livestock or crops destroyed, are too afraid to work their land, or are forced off it. The cash crop sector suffers significantly from the destruction of crops and irrigation networks, the killing of livestock, interruption of credit, the unavailability of inputs, transportation bottlenecks, and marketing problems. Net losses to agricultural production from armed violence in Africa are estimated at $25bn between 1970 and 1997, equivalent to three-quarters of all aid in the same period.[60]

Although a limited number of people benefit from armed conflicts – through the exploitation of resources and, of course, by selling arms – most do not. Manufacturing and construction companies, for

example, tend to be major losers in violent conflict, suffering severely from the disruption of supply and marketing channels as well as from looting and destruction.[61]

Services such as tourism and transport are also hit – and this applies significantly to situations of armed crime, as well as conflict.

Snapshot 2: Tourism in Africa: running from the gun

Tourism is important to Africa. In 2004, the continent's share of global tourism revenues was twice its share of global GDP.[62] It is an essential source of foreign exchange to many countries, and for Kenya the largest source.[63]

However, armed violence deters millions of potential visitors. The chief director at South African Tourism admitted that the reality and reputation of South Africa as a country beset by gun crime had lost it 22 million visitors in five years.[64]

Oxfam's 2007 research of international opinion showed that more than half of people from the world's top tourism spenders (France, Germany, Japan, the UK, and the USA) said they would be less likely to go on holiday to a country with a reputation for armed violence or gun crime than to a country without such a reputation.[65]

Intangible costs, with a focus on social capital

Although intangible costs are extraordinarily difficult to quantify, they have a clear impact in reducing development. The exposure to brutality and subsequent displacement and civil disorder leave individuals psychologically scarred and less able to function. In some cases, this amounts to 'collective trauma'.[66]

Serious armed violence, and particularly civil war, also erode institutions of civil society. Family, community, and inter-community links are severed, and a culture of violence spreads. The destruction of trust leads to more opportunistic behaviour that is not likely to disappear rapidly after war. Ethnically-accentuated conflict is particularly detrimental, since hatred and mistrust deepen divides.[67]

The impacts on children can be severe. In a survey of more than 300 child soldiers in Uganda, over 90 per cent had post-traumatic stress of clinical importance.[68] In IDP camps in northern Uganda, boys and girls play games *only about violence, about the war, abduction, and death. Not about family life – cooking, hunting, and digging – like it used to be.*[69]

Conflict leads to lost educational opportunities for children, as it destroys education infrastructure, reduces spending on schools and teachers and prevents children from attending classes. While one in 11 primary-school age children in low-income countries are out-of-school, this figure rises to one in three in conflict-affected fragile states, according to a recent Save the Children report.[70]

In situations of armed conflict, societal violence, and armed crime, young men use small arms to bypass traditional power structures, which are often weighted towards elders, and seize power by force. Young men perceive small arms violence as a means to reach positions of social or economic status that they feel entitled to, becoming what are often known in Africa as 'big men'.[71]

Other key costs

The above costs are incorporated, sometimes in complex ways, in our estimation of the cost of armed conflict. There are two other highly significant costs for Africa that are not reflected in our calculation, as the methodology for doing so could not be robust. Nevertheless, a brief examination is needed.

Economic impacts on neighbouring countries

Severe economic costs to a whole region can be caused by the disruption of trade and loss of investor confidence, which translates into lost business potential and lower GDP. A civil war in one country reduces the growth rate of neighbouring countries by around 0.9 per cent; thus the combined growth loss to neighbours can exceed the loss to the country itself.[72] Effects become more marked as the conflict intensity increases.[73]

Snapshot 3: Trade and finance for Côte d'Ivoire's neighbours

'Without peace in Côte d'Ivoire, practically our entire economy will need to be reoriented.' — Malian Finance Minister Bassari Touré, 2002[74]

In 2002, when fighting in Côte d'Ivoire made access to the key Ivorian seaport of Abidjan virtually impossible, foreign trade was disrupted in Mali, Burkina Faso, and Niger.[75]

- Mali's cattle exports halted almost completely and Burkina Faso's total exports of cattle and animal products fell by 65 per cent.[76]

- Transporting a container by train from Burkina Faso to Abidjan cost CFA290,000, whereas transporting the same goods by road to Lomé in Togo cost CFA700,000.[77]

The economic disturbances caused by the Ivorian conflict have weakened the financial position of the affected countries. Burkina Faso and Mali each lost nearly $30m in government revenues in the first three months of the war in taxes, customs duties, and other sources of revenue.[78]

The spillover effects of armed conflict, and the perceived or real fear of violence spreading, also translate into increased military spending by neighbours. After tensions increased in Côte d'Ivoire in 1999, Mali purchased military equipment worth CFA8bn ($13m) while Burkina

Faso increased military investments by 52.6 per cent in 1999 and continued spending in 2000.[79]

An inflow of refugees can be costly and the return of migrant workers can lead to a major decrease in remittances. This was particularly significant for Burkina Faso, where several hundred thousand Burkinabé from Côte d'Ivoire stopped sending home remittances – where previously such remittances made up 70 per cent of financial private net transfers.[80]

'War overhang': long-term costs

Our calculation has only looked at the period of armed conflict. However, economists find that economies often remain essentially at conflict levels for many years; this 'war overhang' is more common than the expected 'peace dividend'.[81]

If, during peacetime, the average military spending of a developing country amounts to 2.8 per cent of its GDP, this increases to around five per cent during civil war,[82] and remains elevated to 4.5 per cent during the first post-conflict decade.[83] Mortality rates also remain high: approximately half of lost years of life expectancy arise after the violence is over, mainly due to degraded health and sanitation conditions.[84]

Economies also change. Economic behaviour shifts towards activities which bring short-term returns. In Angola, landmines have created an extra burden, as land remains inaccessible and unproductive. The movement of people from rural to urban areas during armed conflicts is not reversed; Freetown in Sierra Leone and Monrovia, Liberia have seen their populations triple.[85] As well as rapid urbanisation increasing the likelihood of armed violence,[86] it can lead to labour shortages in rural areas, slowing down reconstruction, and can boost the informal economy in urban areas. In Somaliland and Mozambique, informal economies that provided a basic means of survival in wartime have been partly responsible for the collapse of formal rural market networks and have been an obstacle to post-conflict reconstruction.[87]

4 Where do Africa's weapons of war come from?

What weapons are used in Africa's conflicts?

This section focuses on the most numerous weapons used in Africa's conflicts: small arms and light weapons. However, it is worth

underlining that heavy weapons have played a major role in some of Africa's conflicts with a very heavy humanitarian and economic toll.

To identify which small arms are used in Africa's conflicts, we investigated arms collection programmes and government stockpiles.

Arms collection programmes: We collected quantified information from seven arms collections in Africa, mostly as part of Disarmament, Demobilisation and Reintegration (DDR) programmes (in South Sudan, Nigeria, Mozambique, Uganda, Central African Republic, the Republic of Congo, and Sierra Leone), and received anecdotal/non-quantified evidence from seven other sources.[88] A wide variety of weapons was reported, but the Kalashnikov assault rifle and its derivatives (the most well-known being the AK-47), were ranked as the first or second most numerous weapon in every case.

Government stockpiles: An examination of government inventories revealed that the most popular assault rifles are from the Kalashnikov family: 27 countries hold the AK-47 and 28 countries hold the AKM.[89]

Government forces are not the only users of weapons from state stockpiles. Rebel army groups and bandits typically obtain their arms and ammunition by seizing them from police and army stockpiles. This was illustrated during the 1990s in conflicts in the Republic of Congo, Ethiopia, Guinea-Bissau, Liberia, Sierra Leone, and Somalia.[90] And while the Lord's Resistance Army (LRA) in Uganda has stockpiles of weapons obtained many years ago, it continually acquires weapons by capturing them from Ugandan defence forces. The primary weapons used by the LRA are Kalashnikov derivatives – most commonly Chinese Type 56.[91]

This problem is compounded by the fact that many African governments distribute arms to non-state forces. Recipients might be militias in-country, militias in other countries, or 'local defence forces'. The governments generally do not have adequate 'command and control' over the groups using these weapons and there is an increased risk of diversion of these weapons to the illicit trade.

Thus the most commonly used weapon in Africa's conflict zones is the Kalashnikov and its derivatives.

The rest of this section looks exclusively at weapons used in Africa's conflicts rather than in crime, due to length constraints. However, it is worth noting that whilst criminals in other countries might typically use handguns, military assault rifles are often found in the hands of African criminals, particularly where DDR programmes have been inadequate. For example, in Cameroon's Northern Region, more than half the highway bandits are former

combatants and have brought their weapons primarily from the Central African Republic, Chad, and Nigeria.[92] In Nigeria, armed criminals and secret cultists in Lagos,[93] and armed gangs in the Delta,[94] have stocks of sophisticated small arms, including Kalashnikovs.

Where are these weapons manufactured?

Weapons made in Africa are rarely used in African conflicts. A respondent to our survey of disarmament programmes, from UNDP in Sudan, said *'I have not seen any African-manufactured weapons'*[95] – and this response is typical of African arms specialists and field workers.

While small arms and their components are produced in a number of African countries, the scale of this production is small, both in comparison with the number of weapons produced in the rest of the world and with the number of small arms used in Africa. Small arms and their components are produced by 22 companies in South Africa, seven in Egypt, and one in Nigeria, while Uganda has one facility for reconditioning arms.[96] It is worth noting, however, that even this African production depends mostly on technology and licences from outside the continent. There is also skilled craft production in some countries (for example, Ghana and Nigeria) of weapons that appear to be used primarily in armed crime, rather than armed conflict.

To get a picture of the scale of African purchases of small arms, we looked at the UN COMTRADE database.[97] This revealed that, of $59.2m-worth of small arms imports to African countries in 2005, $58.5m, or 99 per cent, came from outside Africa and only one per cent from African countries.[98] This is only an estimate of state-sanctioned trade, but it shows that the vast majority of African weapons are imported from outside the continent.

Looking more specifically at Kalashnikovs, most producers are located outside Africa, in at least 13 countries.[99] Currently Egypt and South Africa are the only African countries that produce Kalashnikov derivatives (respectively, the Misr,[100] a high-quality copy, and the Vektor R4 and R5, more distant relatives), although Nigeria announced plans in 2006 to produce and export its own version, the OBJ006.[101] We believe that Misr weapons are in service in Central Africa and that the R4 is in service in Zimbabwe, although it does not appear that Egypt or South Africa are exporting significant numbers of these weapons in Africa or elsewhere. [102]

Of the two arms collection programmes we surveyed which have some data on manufacture, these reveal a low level of African-manufactured Kalashnikovs:

- Of 891 assault rifles found in the 2002–03 DDR programme of the Central African Republic, 660 were Kalashnikov derivatives and 23 (3.5 per cent) were South African Vector R5s.[103]

- Of 1,100 weapons collected by international peace-keepers in Ituri, eastern DRC, 605 were Kalashnikov derivatives and one was Egyptian-manufactured, i.e. less than one per cent were African-made.[104]

Thus the best evidence available suggests that the vast majority – more than 95 per cent – of Africa's most commonly used conflict weapons (Kalashnikov derivatives) come from outside the continent. This is borne out by the experience of experts in the field and by other supporting data on arms manufacture.

What about ammunition?

Ammunition is spent quickly during conflict and needs to be resupplied constantly. There are cases where the lack of ammunition has helped to prevent armed violence – albeit sometimes only temporarily. For example, in Liberia, the rebel LURD group ran out of ammunition in late June 2003 and had to retreat. However, both LURD and the opposing government forces used this respite to resupply, and the fighting resumed with even greater intensity.[105] A shortage of ammunition in Mali during the 1990–96 northern insurgency was the principle reason why armed groups imposed strict rules governing when and where guns could be fired.[106]

In general, ascertaining the origins of ammunition used in Africa is not easy. Spain is the biggest supplier of ammunition to sub-Saharan Africa.[107] The UN COMTRADE database showed that, of imports of ammunition to African countries worth $109.2m, 98 per cent came from outside Africa.[108] Very little, if any, military ammunition is produced in West Africa.[109] In East Africa, however, researchers report finding Kenyan-, Ugandan-, and Sudanese-manufactured ammunition in the hands of non-state armed groups in several countries.[110]

Where does the ammunition come from to feed the most prevalent weapons in Africa's conflicts? Most Kalashnikovs use 7.62 x 39mm ammunition[111], and ammunition of this calibre is produced in 19 countries outside Africa,[112] as well as in Egypt, Sudan, Tanzania, and Uganda.[113]

Exactly quantifying African production and export of ammunition of this calibre is not possible, as most production figures are not public. We know that the Tanzanian factory now only produces one million rounds per year;[114] however, the Al Shajara/Yarmuk complex in Khartoum was upgraded in around 1996,[115] so will probably have an output in the tens of millions.[116]

There is only one report of African-manufactured ammunition of this calibre being found in African conflicts: ammunition manufactured in North Sudan, found in South Sudan.[117]

Although we cannot quantify precisely the amount of ammunition manufactured in Africa that contributes to Africa's conflicts, we do know that the quantities are extremely small and that the vast majority of ammunition comes from outside Africa.

5 Arms control in Africa – and beyond

The problem of armed violence in Africa is a complex one, requiring solutions at local, national, regional, and global levels, from conflict prevention to enforcement of national gun laws, to DDR, to effective peacebuilding strategies. This report does not attempt to list all the positive efforts that African governments have made, nor provide a comprehensive range of solutions. However, African control efforts can be undermined if the supply of weapons is poorly regulated, so this report will highlight the importance of preventing irresponsible arms transfers.

Some African initiatives on arms transfers

Some countries in Africa have already made significant efforts to prevent irresponsible transfers of weapons. In particular, two instruments have created new regional standards for arms control in a whole range of areas, including robust controls on international arms transfers:

- The 2004 Nairobi Protocol for the Prevention, Control and Reduction of Small Arms and Light Weapons, which applies to countries in the Great Lakes region and the Horn of Africa.

- The 2006 ECOWAS Convention on Small Arms and Light Weapons, their Ammunition, and other Related Materials.

African governments are also seeking changes at national level. Between 2001 and 2005, at least ten African countries revised their laws and procedures on export controls, nine did so in relation to import controls and five on transit controls.[118]

There have also been national initiatives to try and reduce losses from stockpiles; at least six African countries reviewed their standards and procedures for the management and security of stockpiles between 2001 and 2005.[119] The Nairobi Protocol has led to the development of best practice guidelines on stockpile management.

These are extremely welcome developments but it is too early to report definitively on their implementation and impact. In any case, the arms trade is highly globalised; the changing pattern of ownership and production since the early 1990s means that national or even regional regulations are insufficient to prevent arms from reaching the hands of abusers;[120] they need to be complemented by international controls. It is not surprising that many African governments feel let down by the failure of the international community to commit serious resources to implementing the UN Programme of Action on Small Arms and Light Weapons or to act to control arms transfers. Effective control of a globalised arms trade requires new international standards and regulations based on international law.

Africa and the Arms Trade Treaty

The vast majority of arms used in Africa – both in conflict and non-conflict zones – are imported. Tough international controls on arms transfers are one important tool in the effort to prevent armed violence in Africa and worldwide.

In December 2006, 153 countries agreed to start developing an ATT. A UN Group of Governmental Experts (GCE) will begin their work in January 2008 and will present their recommendations to the General Assembly in October 2008.

African support for the ATT has been key in its success to date: Africa has hosted key international meetings in Tanzania (February 2005) and Kenya (April 2006), as well as many regional meetings. Forty-two African countries (91 per cent of those present) voted to start the process of negotiating an ATT in the UN General Assembly in December 2006, and 21 have made submissions in 2007 to the UN Secretary-General's consultation process, the vast majority of which were positive.

The view of IANSA, Oxfam, Saferworld, and many other non-government organisations is that the ATT should crystallise and reinforce, in the context of international arms transfers, commitments already assumed by states under the UN Charter, the Geneva Conventions, the two international covenants on human rights, other widely supported international conventions, and established

principles of customary international law. We have brought together these obligations – the minimum necessary for an ATT which will reduce the human cost of armed violence – in a set of Global Principles for Arms Transfers.[121] They can be summarised in the 'golden rule': the ATT must prohibit arms transfers if they are likely to be used to:

- Commit serious violations of international humanitarian law (the 'rules of war');

- Commit serious violations of international human rights law; or

- Undermine sustainable development.

Provisions that are broadly consistent with the Global Principles have been incorporated into the ECOWAS Convention and the Best Practice Guidelines for the implementation of the Nairobi Protocol.[122]

However, we have seen that the vast majority of arms used in Africa's conflicts originate from outside the continent, so African states and arms producing states share responsibility for the irresponsible arms trade. Arms producers must take responsibility for ensuring their weapons are not diverted to misuse, and African states have a responsibility to prevent internal diversion of these weapons. This is why a *global* ATT is so necessary and, to be effective, it is important that it comes with a mechanism to enhance transparency in arms transfer and also significant and long-term capacity-building support, to enable compliance and implementation.

Preventing irresponsible arms transfers

The ATT will *not* prevent the *responsible* transfer of weapons for defence, policing, peacekeeping, or other legitimate purposes. It will not prevent a transfer if it is legal under the national laws of all countries concerned, legal under international laws, and upholds current best practice, particularly in ensuring that the arms are not likely to be diverted to another user.

Thus many arms transfers would not be affected. But the ATT would impact on the following transfers:

Irresponsible transfer to a state: Such a transfer may be irresponsible if it was not authorised by all of the states concerned (through import, export, brokering, transit, or transhipment), or if the transfer was in violation of international law. For example, the transfer would be prohibited if it breached an arms embargo, or if the arms were likely to be used for serious violations of international humanitarian or human rights law.

Amnesty International's report 'DRC: Arming the East' provides an extensive list of questionable arms transfers to countries involved in the DRC war.[123] Rwanda imported millions of rounds of small arms ammunition, grenades, and rocket launchers from surplus stocks in Albania and there have been large flows of arms from Eastern Europe to the DRC transitional government and to Uganda. Until April 2005, only rebel groups within the DRC were under UN arms embargo, so it appears that these transfers did not breach any embargo. However, there is a strong possibility that at least some of these arms did ultimately reach rebel groups in the DRC. The ATT would put a *legal obligation* on exporters to seriously investigate and consider the possibility of diversion. It is not sufficient simply to accept an end-user certificate at face value. Under the 'Golden Rule', an exporter would be in breach of the ATT if that exporter *should have known* of a risk of diversion or misuse.

Transfer to an illegal armed group – Without authorisation by all states with jurisdiction over the transfers, transfers to armed groups would be illegal under the ATT.

The UN Panel of Experts on the arms embargo on Somalia provides details of several countries alleged to have supplied arms to actors in Somalia, in breach of the arms embargo. For example, one report refers to at least three separate consignments containing arms and ammunition from Iran, including machine guns and MANPADs.[124]

While the findings of the report have been contested by a number of the governments named, such shipments would be in violation of an existing arms embargo, and therefore are already illegal. The ATT would help prevent such transfers by strengthening the implementation of UN arms embargoes, in particular by requiring them to be incorporated into national legislation.

Recirculation of weapons: Weapons cross borders in Africa relatively easily, in what is often called the 'ant trade'. But the quantities are not always small. In the first six months of 2002, the Nigerian Customs Service reported that it had intercepted small arms and ammunition worth more than $34m on their way into the country. Much of this had come through the border with Benin, and was being brought into Nigeria either overland or by sea.[125]

The crossing of national borders is an international transfer of weapons and the ATT would require such transfers to be brought under control by the countries involved. This obviously requires investment to control weapons flows, such as building customs, border control, and law enforcement capabilities. Efforts to this end are already underway, and an ATT would complement this and provide a legal framework for increased donor funding.

Diversion from stockpiles: As stated in Section 4, leakage from state stockpiles are a key source of weapons for armed groups, and also a key contributor to armed crime.

According to Gun Free South Africa, an estimated 16,893 weapons were stolen or lost from the South African Police Force between 1990 and 2002, and 1,759 from the South African National Defence Force, the majority of which were assault rifles, between 1994 and 2003.[126]

The ATT would put a legal obligation on arms exporters to consider the possibility of diversion from stockpiles before agreeing to transfer arms. Again, increased funding for improvements to stockpile security may be required and, in some cases, exports should be preceded by a programme to improve stockpile management.

6 Conclusions

Every effort must be made to limit the enormous social and economic cost of armed violence. Our rough estimate is that armed conflict alone has cost Africa around $300bn (constant year 2000 $) since 1990, or around $18bn per year – costing each conflict country, on average, 15 per cent of its GDP.

Many things need to be done to reduce armed violence, and of course the poverty that lies behind much of it. Preventing arms proliferation is a multi-faceted issue and one that requires a plethora of measures, which address both supply and demand. In terms of supply, we estimate that 95 per cent of Africa's most commonly used conflict weapons (Kalashnikov derivatives) and the vast majority of other arms and ammunition are not made in Africa. It is true that many weapons used in Africa are recirculated, but there *are* still continuous new supplies of weapons and ammunition to state and non-state actors.

Indeed, preventing the supply of ammunition into zones of armed violence is an often overlooked strategy in limiting armed violence. According to the UN Panel of Experts on Somalia, 'When a serious confrontation is anticipated, larger quantities of arms and, more importantly, ammunition enter the Mogadishu market.'[127] At a minimum, a shortage of ammunition is likely to impose a 'shooting discipline' that could prevent some violations of human rights.[128]

Thus there is an urgent need to address the international supply of arms and ammunition. An effective ATT, based on the 'golden rule', is vital to reduce the human and economic costs of armed violence in Africa and across the world. Such an ATT would need to come with support and capacity-building to ensure effective implementation.

Economic growth and the lives and livelihoods of people in Africa are being held back by armed violence. In failing to control the arms trade, the international community has let Africa down. The disarmament community must play its part to help Africa achieve the MDGs and lift people out of poverty.

We are now at a crucial stage. As well as sustaining dynamic arms control efforts at national and regional levels, African governments, arms-producing countries, and the rest of the international community, must vigorously and proactively support international discussions to achieve a robust ATT, to protect Africans from the daily effects of armed violence.

After 153 votes for ATT discussions to begin and 97 submissions to the Secretary-General's consultation, there is a strong expectation that the GGE meeting in 2008 will recommend that negotiations should start on a tough ATT.

All governments have a role to play in ensuring its success, so that women, men, girls, and boys across Africa are spared the human and economic impact of armed violence.

Appendix: Methodology for cost to Africa calculation

The methodology used is very similar to that used by Stewart and Fitzgerald of the University of Oxford in *War and Underdevelopment* (2001).[129] We have also taken advice from academics and experts, including Anke Hoeffler of the Centre for the Study of African Economies at Oxford University and Graham Harrison of the University of Sheffield.

The calculation was done as follows:

1. Determining where and when conflicts happened in Africa from 1990. The basic source of data used was the Heidelberg Institute for International Conflict Research (HIIK)'s register of conflicts (new methodology, not yet published) which does not rely on a narrow definition of combat deaths.[130] Of HIIK's five levels of violence, we used a 'severe crisis' (level 4) or a 'war' (level 5). These results were cross-checked against the Uppsala Conflict Data Program[131] and other sources such as the BBC, *The Economist*, and the UN's IRIN.

2. Predicting what GDP should have been (the counterfactual). Each conflict country was assigned to a broad economic grouping using World Bank categories: low income, low-middle income or upper-middle income.[132] The GDPs of all countries (constant year 2000 $) were taken from the World Development Indicators.[133] It should be noted that data may not be totally reliable and in some cases is dependent on estimates. For each grouping, the annual growth rate was calculated for each year, 1990–2005.

3. Calculating a measure of the cost of conflict = the cumulative loss in GDP. Starting with the GDP at the beginning of the conflict, the growth rate of the economic grouping was applied for every year that the country was in conflict. The difference between the predicted GDP and the actual GDP was calculated for each conflict year and summed.

Limitations to this methodology

There is no perfectly accurate way of developing the counterfactual; however, our method is reasonable and reflects the typical performance of a country of that economic level. The large number of countries in each economic group (around 45) smoothes peculiarities due to particular countries. As a form of comparison and verification, we have used other counterfactuals (for example, predicting a

country's GDP according to its previous non-conflict growth), and these suggest that our estimate is satisfactory. The comparison with growth projected from past performance was not used to generate the total cost figure because it was impossible to generate a non-conflict growth rate for some countries, due to the length of the conflict or its cyclic nature.

For most of the conflicts considered, conflict had an overwhelming effect on the economy and therefore the fall in GDP can be used as a reasonable proxy for the cost of the conflict. However, if the conflict is geographically limited and situated away from main economic zones, the impact on the national economy may not be so marked. For example, the conflict in South Africa in the 1990s was geographically confined and so only had a small impact on the economy. In a few situations, other factors also have an impact on GDP: e.g. major changes in world commodity prices or drought in an agricultural economy (the impact of which would obviously be made much worse by conflict).

Our figure is likely to be an under-estimate because it does not include the effects on neighbouring countries (of reduced trade and remittances, refugee movements, etc.) or the social costs of conflict (propensity to increase crime, loss of social capital), and it only looks at the period of conflict, not the war overhang.

All countries showed a loss due to conflict, apart from Uganda. The major reason for this peculiar and unconvincing result is the booming Ugandan economy.[134] Our methodology compares actual growth with predicted growth, but the Ugandan economy has grown much faster than average.

In addition, the conflict is confined to the north of the country and although this has had some economic impacts at national level (cotton production has suffered), other economic drivers (including coffee, the country's main export) have not been affected.

A 2002 study, updated in 2006, used an accounting methodology (i.e. counting individual costs, rather than modelling) to estimate the economic cost of the war in the north of Uganda as $1.7bn over 20 years, or $85m per year.[135] This is clearly significant and has major opportunity costs, particularly in the north. $85m represents 1.1 per cent of GDP in 2005.

For more details on the methodology, please email: africaattreport@controlarms.org

Notes

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5 HIIK (2006) 'Conflict Barometer 2006', p.3. Heidelberg Institute for International Conflict Research at the Department of Political Science, University of Heidelberg.

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10 Average of undernourishment as a percentage of population: 35.5 per cent for conflict countries, 21.8 per cent for non-conflict countries. Source: World Bank (2007b) 'Health, Nutrition and Population Data', http://devdata.worldbank.org/hnpstats (last checked by the author May 2007).

11 Average life expectancy: 48.31 for conflict countries, 53.19 for non-conflict countries. Source: World Bank (2007) *World Development Indicators 2007*, op. cit.

12 Average adult literacy: 48 per cent for conflict countries, 68 per cent for non-conflict countries. Source: World Bank (2007) *World Development Indicators 2007*, op. cit.

13 Average of physicians per 1,000 people: 0.14 for conflict countries, 0.37 for non-conflict countries. Source: World Bank (2007) *World Development Indicators 2007*, op. cit.

14 This data was not calculated by Oxfam. It applies to sub-Saharan Africa during 1970–93. Source: Messer, E., M. J. Cohen, and J. D'Costa (1998) 'Food from peace: Breaking the links between conflict and hunger' http://www.ifpri.org/2020/briefs/number50.htm (last checked by the author August 2007)

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TB: $2.2bn/year and malaria: $3.1bn/year, from DATA (2007) 'The Data Report 2007', Health, p.6.

Education in Africa: $5bn/year, from DATA(2007) 'The Data Report 2007', Education p.5.

Provision of clean water and sanitation in Africa: $1.8bn/year, from DATA (2007) 'The Data Report 2007', Water, p.3.

http://www.thedatareport.org/issues.html (last checked by the author July 2007).

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Email: contact@iansa.org

Oxfam International is a confederation of thirteen organizations working together in more than 100 countries to find lasting solutions to poverty and injustice: Oxfam America, Oxfam Australia, Oxfam-in-Belgium, Oxfam Canada, Oxfam France - Agir ici, Oxfam Germany, Oxfam GB, Oxfam Hong Kong, Intermón Oxfam (Spain), Oxfam Ireland, Oxfam New Zealand, Oxfam Novib (Netherlands), and Oxfam Québec. Please call or write to any of the agencies for further information, or visit **www.oxfam.org**.

Email: advocacy@oxfaminternational.org

Saferworld is an independent non-governmental organisation that works to prevent armed violence and create safer communities in which people can lead peaceful and rewarding lives. Saferworld works in a number of regions affected by conflict and the proliferation of arms and we currently have programmes in Africa, Europe, and South Asia.

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