C I **Carbon trading and climate change**

Small fluctuations in the earth's climate and temperature are nothing new. Throughout history our ancestors endured droughts, floods and famine. To survive, they invented new ways to farm and to hunt, to make their dwellings and to clothe themselves; they migrated across the globe, and they fought each other.

The climatic fluctuations they faced were relatively small. The earth's climate and temperature have been remarkably constant for millennia, with an average temperature of around 15°C – about 33°C warmer than it would have been without a natural greenhouse effect produced by water vapour in the atmosphere. The total amount of heat and light energy absorbed from the sun almost exactly equals the heat energy that radiates out into space – *almost*, because a small amount is captured by plants and oceanic algae for photosynthesis. Photosynthesis converts solar energy, CO_2 and water to energy-dense carbon containing organic molecules, releasing oxygen.

Over millennia the atmosphere was cleared of CO_2 while massive amounts of solar energy accumulated under the earth's surface and the depths of the oceans in carbon reservoirs of oil, coal and gas. This gave us a life-sustaining atmosphere consisting mainly of nitrogen, oxygen and water vapour.

As the atmosphere supports life, so life sustains the atmosphere. It does so through the carbon cycle – a natural carbon-recycling system powered by photosynthesis. Carbon enters the atmosphere from an above-ground pool of biomass in the ocean, soil and plants through respiration, the decay of dead plants and animals, and combustion. It is recycled by photosynthesis. This natural system can recycle a limited amount of carbon between the atmosphere and superficial biomass, but it has no effective way of returning it to the subterranean reservoirs.

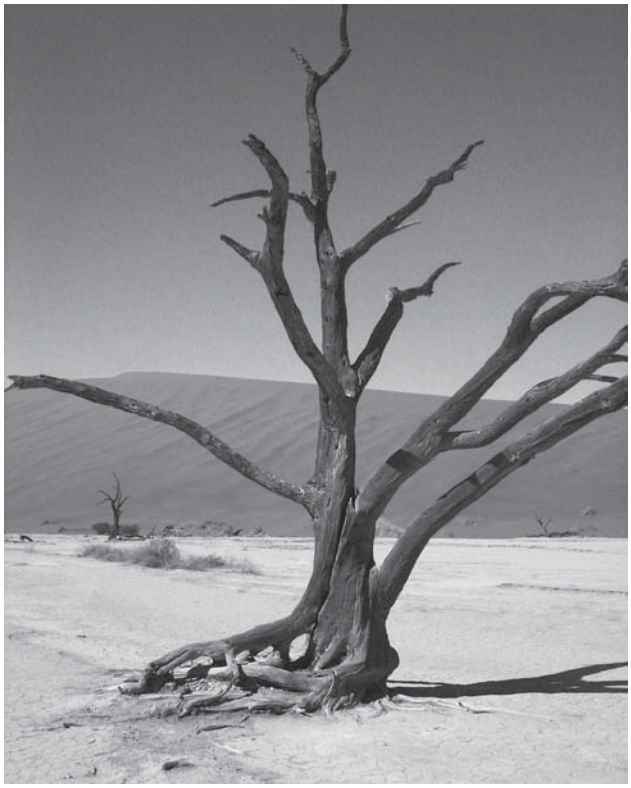

IMAGE C1.1
Dry river bed, Namibia

Until just over two centuries ago the carbon cycle was in balance. But when we discovered that we could unleash the solar energy stored over millennia as coal, gas and oil in carbon reservoirs and use it to drive machines, the amount and the rate at which carbon entered the atmosphere began to increase. This was the start of the Industrial Revolution. It made mechanical work on a massive scale possible. The combustion of fossil fuels pumps between 5 and 6 gigatons per year into the atmosphere. This exceeds the recycling capacity of the carbon cycle by more than 1.6 billion tons per year. At this rate many times more fossil carbon will be added to the atmosphere over this century than since the industrial era began.

The fundamental cause of today's climate change is that we have reversed the overall direction of carbon flow that brought the earth to life and keeps it alive. If it continues, the atmosphere will look more and more like it did before life appeared. It threatens nothing less than planetary death.

How climate change affects health

Climate change is already having profound effects on health. As it continues, this will escalate. People who live in poor countries (those least responsible for producing climate change) will bear a far larger burden than citizens of rich countries whose wasteful lifestyles are the major cause (GHW 2005). Inequality in social and economic development, education, the accessibility and quality of health care, public health initiatives and infrastructure and so on will also be critically important in determining the impact of climate change. Again, it is poor people who will suffer the most.

Increasing temperatures result in an increased number of deaths from heat-related causes. For example, the European summer of 2003 average temperatures were 3.5°C above normal. Between 22,000 and 45,000 people died from heat-related causes. It was the hottest summer ever recorded, with maximal temperatures beyond the range of normal variability. This was not completely unpredictable: climate modelling had shown that the risk of a heatwave of this size had more than doubled as a result of human-induced climate change (Patz et al. 2005).

Apart from the direct heat-related causes of death, climate change can affect human health in many ways. Below are some of the direct and indirect health-related consequences of climate change (GHW 2005):

- Droughts or increased rainfall will damage agricultural systems, thereby threatening the food supply of millions.
- Many people may have to leave their homes as a result of environmental damage or rising sea levels, increasing poverty and dependence on international aid. The Intergovernmental Panel on Climate Change predicts that warming oceans could contribute to increasingly severe hurricanes and cyclones with stronger winds and heavier rains. While it is not possible to attribute specific events to climate change, the events in New Orleans after Hurricane Katrina and the aftermath of Cyclone Nargis in Burma, where tens of thousands were killed and hundreds of thousands made homeless, show the kind of devastation that can be expected.
- Deaths will increase as a result of extreme temperature changes – both hot and cold. Children and the elderly will be particularly vulnerable. A rise in heat-related deaths in hot countries will be larger than any fall in cold-related deaths in cold countries (McMichael et al. 2006).
- Infectious diseases will increase, especially those transmitted by mosquitoes. Diseases such as malaria and dengue fever will increase in their current regions and may spread to nations which currently do not have such illnesses.

- Polluted water supplies will heighten the risk of diarrhoeal diseases including typhoid. Malnutrition will increase in poor communities; along with causing mortality, it may also damage child growth and development.
- Rodent-borne diseases may also increase as a warmer climate allows them to seek habitats in new areas. This increases the risk of illnesses such as Lyme disease and tick-borne diseases.

It is believed that at current trends there will be an increase of 2°C by 2050 (GHW 2005). This could result in:

- 220 million more people at risk from malaria;
- 12 million more at risk from hunger as a result of failing crops;
- 2,240 million more people at risk from water shortages, particularly in developing nations.

Meeting the challenge of climate change

Though climate change is the most serious threat we have faced throughout human history, very few leaders are prepared to tackle the problem at its roots. Despite the flourishing denialist industry, the main problem is not denial but rather that powerful countries and groups are seeking to turn the crisis to their own advantage. They have steadily entrenched their power over the past two decades.

In *Carbon Trading: A Critical Conversation on Climate Change, Privatization and Power*, Larry Lohmann, of the Corner House,[1] argues that a new enclosure movement has formed around three interlinked and mutually reinforcing strategies aimed at depoliticising the climate change debate and trapping 'official international action … within a US-style framework of neoliberal policy'. The three strategies are the knowledge fix, the technological fix, and the market fix (Lohmann 2006).

The *knowledge fix* aims to reshape or suppress public understanding of the problem so that reaction to it presents less of a political threat to corporations. Here is how it works.

By the mid-1980s, mounting evidence of rising atmospheric CO_2 levels and concern among climatologists about global warning led to a series of landmark conferences for scientists (e.g. Villach, Austria, in 1985) and policymakers (e.g. Bellagio, Italy, in 1987). At the Villach conference climatologists warned of a rise in global temperature 'greater than any in man's history' in the first half of the twenty-first century, and of the prospect of rising sea levels. Faced with this clear warning the US government moved to shift the scientific climate change debate away from independent

academics towards government-linked science bureaucracies. These include the Intergovernmental Panel on Climate Change (IPCC), established in 1988 to look at the science and consequences of global warming (Lohmann 2006).

Lohmann describes clearly how these bureaucracies are subject to US and corporate influence, and increasingly to that of other Northern governments. This is not to say that the IPCC is *directly* controlled by these forces; the ways in which power influences science are complex and subtle. They can best be understood if we first accept that scientific agendas reflect specific political and economic contexts. The questions scientists ask, the way they seek the answers, and the way they communicate their findings to policymakers and the public reflect the prevailing political and economic milieu and the dominant mindset. They are influenced by competition for, and sources of, funding; the power of the corporate-owned media; culture; and so on.

In a world dominated by neoliberalism, the scientific research agenda is biased towards seeking technological or market-related solutions. And, since scientific bodies like the IPCC require consensus before issuing reports, the language in their reports avoids contentious issues and reflects the lowest common denominator. To free climate science from neoliberal domination we must accept that science is unavoidably heavily politicised and, rather than plead for 'objective science', oppose the neoliberal project globally in all its manifestations.

Public understanding of climate change is also influenced by a host of think-tanks, corporate-backed NGOs, and business groupings linked to the oil, energy, transport and other related industries whose aim is to spread disinformation and to perpetuate the idea that anthropogenic climate change is controversial. This includes the still flourishing denialism industry, which George Monbiot describes very well in *Heat,* his excellent book on global warming (Monbiot 2006).

As with science, the mass media approach to climate change also tends to follow the neoliberal paradigm, focusing almost exclusively and uncritically on technical magic bullets and carbon trading. This includes Nobel prizewinner Al Gore's film *An Inconvenient Truth*, which, though very informative about climate issues, seeks solutions in carbon trading, tree planting and other technical approaches.

The *technological fix* is based on the notion that the solution to climate change lies in new technology that will allow continued exploitation of fossil fuels and continuing profit for the oil and motor corporations. Examples include giant mirrors in space to reflect solar energy; spraying the stratosphere with fine metallic particles to reflect sunlight (Edward Teller,

the father of the hydrogen bomb, argued that such unilateral action to dim the sky would be cheaper than seeking 'international consensus on … reductions in fossil fuel-based energy production'); massive tree plantations – perhaps using genetically modified trees – to mop up CO_2; bio-fuels; injecting CO_2 into the deep ocean; and seeding the oceans with iron filings to encourage the growth of CO_2-absorbing plankton.

The US National Science Foundation is discussing 'creating a biological film over the ocean's surface to divert hurricanes', and scientists convened by the George W. Bush White House have proposed a fleet of giant ocean-going turbines to throw up salt spray into the clouds to increase their reflectivity (Lohmann 2006).

While such technical approaches will give corporations exciting and lucrative business opportunities, their unintended ecologic results do not seem to merit much attention; nor does the more fundamental idea of cutting down on energy expenditure as a means of reducing fossil fuel extraction and emissions.

The *market fix* is the third leg of the global strategy to depoliticise climate change while simultaneously creating new opportunities for corporate profit-making. Following the idea of marketable pollution rights, proposed by the Canadian economist John Dales in the 1960s to control water pollution (Erion 2005), the market fix for climate change developed in the wake of the 1987 Montreal Protocol that established pollution trading as a means to control substances that damage the ozone layer. This was followed by a system of emissions trading introduced by the United States government in 1990 that set targets for reducing sulphur dioxide emissions that were causing acid rain.

In 1992 the United Nations Framework Convention on Climate Change (UNFCC) was presented for ratification with the stated aim of achieving 'stabilization of greenhouse gas concentrations in the atmosphere'. Though it did not set specific targets, it provided for subsequent updates. The most important update is the 1997 Kyoto Protocol (Kyoto), which aims to bind industrialised countries to a 5.2 per cent reduction in greenhouse gas emissions from 1990 by 2012.[2]

Pushed by the US, pollution trading came to form the core of Kyoto (no doubt pleasing bankers and companies who hoped to profit from the lucrative trade in carbon). Carbon trading allows countries or corporations to balance their CO_2 emissions by buying 'carbon credits' from others who emit less than their own target maximums. This allows major polluters to avoid the modest cuts required under Kyoto.

Article 17 of the Protocol establishes a system of 'Emissions Trading' where Annex 1 countries[3] can trade emission credits among themselves.

The next type of carbon trading, 'Joint Implementation', allows Annex 1 countries to invest in other Annex 1 countries to help them reduce emissions. The investing country gets the credits.

In practice, neither Emissions Trading nor Joint Implementation has played a significant role in the global carbon market. The main area of carbon trading falls under Article 12, the 'Clean Development Mechanism' (CDM). The CDM allows countries to avoid emission cuts at home by investing in UN-approved greenhouse-gas-saving projects such as wind farms, methane capture, biofuels and so on, in poor countries.

The CDM has two broad objectives. First, it has to help Annex 1 countries meet their emission reduction commitments. Second, it must help poor countries to achieve sustainable development. Both these goals raise controversial issues. A complex bureaucratic set of processes and structures have been set up to assess these questions.

To qualify for the CDM a project has to show that its emissions reductions are *additional* to those that would have happened if the project did not exist. If so, it qualifies for certified emissions reductions (CERs). These ingenious so-called 'clean development mechanisms' prevent any possible shortage of quotas; their supply can be increased as necessary. The UN does not charge for CERs, and investors can either use them to meet their Kyoto commitments or sell them on the market like state-allocated quotas. Writing in *Le Monde Diplomatique*, Aurélien Bernier (2008) describes how the creation of CERs actually *increases* the amount of carbon currency circulating on the global market. The price of carbon credits have plummeted to well below that required to reduce emissions or to give polluters any idea of their real cost.

Furthermore, in addition to the controversy surrounding CERs, the CDM does not have a universal definition of what sustainable development means; nor can it hold projects accountable in meeting this criterion.

Carbon trading and human rights

Greenhouse gas trading as set out in Kyoto establishes 'property rights' in the earth's carbon-cycling capacity (Lohmann 2006). This notion of 'rights' needs careful scrutiny.

The 1948 Universal Declaration of Human Rights sees human rights as inalienable and indivisible. All of us possess them in equal measure by simple virtue of the fact that we are human. Since fixed carbon is fundamental to all life, each one of us has a just claim to a fair and equal share of the earth's carbon cycling capacity – our human rights must include the rights to use and emit a certain amount of carbon.

IMAGE CI.2 **Busy street in Cairo**

But how big is our fair share? If we want a stable and healthy planet for ourselves, and our grandchildren, then the total amount of all our emissions cannot exceed the amount that the earth can recycle. To meet this requirement, a drastic cut – of the order of at least 60 per cent – in global greenhouse gas emissions is an absolute requirement. To calculate our fair share of emissions we must first cut current global emissions by 60 per cent and then divide the remainder by the earth's total population. This is the idea behind *Contraction and Convergence*, which is well described by Monbiot (2006).

If I claim more than my fair share, then one of two things must follow. Either others must make do with less than their fair share, or CO_2 must accumulate in the atmosphere and climate change will accelerate. To claim as a 'right' any use of carbon that exceeds my fair share is a fundamental contradiction of the principles of human rights.

In poor countries, most people do not have the means to access their fair share. Rich people, on the other hand, consume vastly in excess of theirs. The carbon market assigns a uniform price to the 'luxury emissions' of the First World and the 'survival emissions' of the Third World (Narain and Agarwal 2006). Carbon trading amounts to the privatisation of the world's capacity to maintain a life-sustaining climate. Thus the 'rights' granted by Kyoto have been appropriated by the rich and powerful, and in particular by those who, historically, have been the worst polluters. Again, this is the very antithesis of any notion of human rights.

Instead of cutting the extraction of fossil fuels, the practical results of current carbon-trading policies actually *promote* fossil fuel burning. Other current solutions such as tree plantations and biofuels often drive people out of their traditional living grounds, destroy biodiversity, and lead to increased food prices as people are forced to compete with motor cars for the products of land use. Not surprisingly, this system sets up political conflicts and blocks effective climate action.

The way forward?

Fundamentally, we can only combat climate change and secure a liveable world for our children and grandchildren if we leave sequestered carbon – coal, oil and gas – under the earth's surface in the reservoirs nature created. There is no doubt that this is a daunting task.

Possible ways forward are easier to see if we remember that the knowledge fix, the technology fix and the market fix are pushed by a small group of people and neoliberal institutions.

Lohmann (2006) suggests that a good way to start would be a package of approaches already making headway in Northern countries where steep cuts in fossil fuels are high on the agenda. The package includes:

- Large-scale public works programmes to help reorganise infrastructure away from dependency on fossil fuel by, for example, revamping transport systems, decentralising electricity supply and developing solar and wind power.
- Phasing out subsidies aimed at promoting fossil fuel and car use, airport expansion, deforestation, the military, while scaling up subsidies for solar and wind energy, more energy-efficient housing, better insulation, and other genuinely green technologies that do not affect local communities adversely (as forest planting and gas extraction projects from landfill sites tend to do).
- Regulations that set strict standards for buildings, transport and land use planning.
- Phasing in taxes on carbon use and the use of materials like throwaway metal, water, wood and plastics.
- Use of the courts to apply human rights law to, say, greenhouse gas polluters.

These strategies should be backed and monitored by popular movements and held to account against clear short- and long-term targets. Where appropriate, they should be controlled by local communities. Vulnerable and marginalised groups must be included in all their diversity.

As in struggles around health, the fundamental problems of climate change are more political than technical. Ultimately, we cannot deal with climate crisis without all the painstaking work that goes into democratic mobilisation and political organisation and struggle. This involves building alliances around the many issues closely or loosely relevant to climate change that affect people in many different ways. As Lohmann (2006) says, 'the fight against global warming has to be part of the larger fight for a more just, democratic and equal world.'

Notes

1. The Corner House publishes regular briefing papers on a range of topics. It supports democratic and community movements for environmental and social justice. www.thecornerhouse.org.uk.
2. *Editorial comment*: Different perspectives are held on the potential of carbon trading as a means to reduce carbon emissions. Two positions are reflected within this edition of *Global Health Watch*. For an alternate perspective, please see Section A.
3. Annex I countries are those countries that have agreed to binding targets under Kyoto. They have to submit annual greenhouse gas inventories. Countries that have no such obligations (i.e. poor countries) but who may participate in the CDM are known as 'non-Annex I countries'.

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C2 Terror, war and health

The role of the public health community in responding to the health impacts of war and conflict has become increasingly important in the context of the changing nature of war and conflict. Rarely do armies wear distinctive uniforms and fight across clearly drawn battle lines. Modern wars and conflict are characterised by aerial bombardment, guerrilla tactics and acts of 'terrorism', substantially changing the nature of the primary victims of war (Levy and Sidel 2008). Since World War II, civilians, especially women and children, have constituted the majority of deaths in wars.

While the global health community may have limited power to curb the aggression and belligerence of political and military leaders seeking out war and conflict, it can promote informed and open public debate about the causes of war and conflict by providing timely and credible information on the expected and actual health consequences of conflict. The health community also has an important role in preventing and treating injury and disease, as well as monitoring the impact and the conduct of war within the legal framework set out by the Geneva Conventions and other instruments of international law.

Terrorism and war: defining the boundaries

At a global level, 'terrorism' is an ill-defined yet widely used term. Numerous definitions are contained within international law and national legislation. Coming up with an internationally accepted definition is still a work in progress. Although people may often have no trouble in recognising 'terrorism' when they see it, a common definition and understanding of terrorism is much harder than might be first supposed. One of the complica-

BOX C2.1 **The risk of war**

The greater the wealth of a nation, the lower its chances of having a civil war. A country with a gross domestic product (GDP) per capita of US$250 has a 15 per cent probability of a war in the next five years, and this probability reduces by approximately half for a country with a GDP per capita of $600. Countries with per capita GDP of more than US$5,000 have less than a 1 per cent probability of having a civil war. Other factors that raise the risk of armed conflict include poor health, low status of women, large gaps between the rich and the poor, weak civil society, a lack of democracy, limited education, unemployment and access to small arms and light weapons (SIPRI 2006; deSoysa and Neumayer 2005).

tions about the definition of terrorism is that some institutions exclude it as a phenomenon during war because terrorism during war is best classified as a war crime. However, this contention is complicated by the existence of a definition and the prohibition of terrorism within the laws of war.

At the core of most definitions is the notion that terrorism involves targeting civilians with the intention of creating fear and terror in the population. Some definitions go on to say that terrorism must also be planned so as to achieve a change in the policies or practices of governments.

Attacks by nation-states are rarely termed 'terrorism' even when they use tactics that deliberately target civilians. Examples of terrorism perpetrated by nation-states include the Nazi bombing of Guernica during the Spanish Civil War; the bombing of cities in Europe during World War II; the nuclear destruction of Hiroshima and Nagasaki; and the carpet-bombing of Vietnam. Other examples of state terror have occurred in almost every recent war.

By contrast, when non-state groups or individuals use violence to accomplish their ends, these acts are often labelled 'terrorism' whether or not they deliberately harm civilians. Indeed, US law defines 'terrorism' as 'premeditated, politically motivated violence perpetrated against noncombatant targets by sub-national groups or clandestine agents' (CULS 2006). This definition excludes acts committed by nation-states. It also excludes the threat of violence as a means of terrorism. Furthermore, economic exploitation is often backed by the implied or explicit threat of superior force. The threat may often be unacknowledged, even by its victims, who may be led to believe they are less worthy, less hard-working, or less capable, and hence deserve exploitation. The implicit or explicit

TABLE C2.1 **Framework for defining terrorism**

What does it include?	Politically motivated violence (physical or psychological), or the threat of violence, especially against civilians, with the intent to instil fear and cause damage to health
Who might the perpetrators be?	State or non-state organisations or individuals
Where might such acts take place?	Within or across national boundaries
When can it occur?	During war, peace, or periods of internal or civil conflict

threat of use of force can be as unjust as the actual use of that force and may account for more total damage to health than implemented acts of military aggression. Economic sanctions and blockades intended to produce destabilisation may also be viewed as a weapon of war; current examples of this include Gaza and Cuba.

This chapter advocates a definition of the term 'terrorism' that is comprehensive and that is not based on a distinction between state and non-state actors, nor whether the scenario is characterised as war or peace. Rather, we define terrorism as 'politically motivated violence, or the threat of violence, especially against civilians, with the intent to instil fear, whether conducted by nation-states, individuals or sub-national groups'.

As is often noted, one person's 'terrorist' is another person's 'freedom fighter'. Thus the political context and the causal pathway leading to an act of terrorism are salient issues. While attacks on unarmed civilians can never be justified, it is argued that violence committed in resistance to oppression, subjugation or attack is not the same as violence conducted as an act of aggression or offence.[1] However, while it is important to understand the root causes of violence, others argue that making a distinction between different causes of violence is unhelpful and ultimately self-defeating.

War, terrorism and the state

Preoccupation with preparation for wars is sometimes known as 'militarism', particularly when it is excessive or disproportionate to a perceived threat, or when it is accompanied by acts of aggression. It may lead to the subversion of efforts to promote human welfare. This preoccupation can also lead to 'pre-emptive war' (responding to an allegedly imminent attack) and to 'preventive war' (responding to an attack that is feared some time in the future).

Militarism is a problem worldwide but is especially important in developing countries that spend substantially more on military expenditures than on health. In 1990, Ethiopia spent $16 per capita for military expenditures and only $1 per capita for health, and Sudan spent $25 per capita for military expenditures and only $1 per capita for health (Foege 2000). Militarism can also affect the social environment by encouraging violence as a means of settling disputes and infringing upon civil rights and liberties.

The actions of governments in the recent violent history of Latin America are especially worth considering in this discussion of terrorism. In Chile, for example, the military dictatorship that followed the assassination of President Salvador Allende led to a reign of terror over the population that included the arrest, torture and execution of thousands of people (Klein 2007).

In other countries, a 'low-intensity conflict' (LIC) was experienced in which small-scale, guerrilla-style methods were applied to avoid full military engagement. Although described as 'low intensity', its sustained use inflicted overwhelming damage in some countries (Braveman et al. 2000). For civilians, who are often targeted, the conflict is anything but low in intensity.

In El Salvador during the 1970s, when Catholic priests and peasants took action to improve their living and working conditions, the country's landowners responded violently with 'death squads'. This was followed by a military coup in 1979 that led to hundreds of unarmed unionists, moderate political opposition leaders and priests being killed and mutilated. Subsequently an armed revolutionary organisation was formed to oppose the illegitimate military government, led by the Farabundo Martí National Liberation Front (FMLN). Twelve years of civil war followed until a peace accord was signed in 1992.

During this time nearly 1.5 per cent of the Salvadorian population (70,000 people) were killed by government forces and allied death squads. Life expectancy fell to 50.7 years in the period 1980–85. Government documents confirm that civilian assassination campaigns were planned with the full knowledge of the US administrations at the time. Torture was an unofficial but systematic policy of the government, reportedly with the assistance of US military advisers.

Parts of the country were subjected to a campaign of terror which included starving civilians and subjecting them to air attacks, including with napalm. In 1980 a group of at 600 unarmed civilians, mostly women and children, were killed by the military while fleeing to Honduras. In 1981, 7,000 people were massacred while fleeing to Honduras. About a million Salvadorans (20 per cent of the population) fled the country as refugees; another 500,000 were displaced within the country.

Events in Guatemala present another example of state-sanctioned terrorism. In 1954, the elected government of Jacobo Arbenz was overthrown by a CIA-directed coup, following his attempt to nationalise the unused land of the multinational United Fruit Company, so that it could be used for domestic food production. Over the next few decades resistance to the military government was brutally repressed. Health-care workers who served the poor were among those targeted. From 1980 to 1985, over 137 violations of medical neutrality were documented by the Guatemala Health Rights Support Project. Health workers were shot, 'disappeared', or driven into exile. Tens of thousands of peasants were driven from their villages and subsistence farms, especially by the government's 'scorched earth' strategy. Many fled to the remote jungles and mountains, further restricting opportunities for subsistence living and access to health care. By 1989, 71 per cent of rural Guatemalans lived in extreme poverty (Braveman et al. 2000).

Meanwhile a wealthy elite from within and outside the country gained control of the economy. While basic grain production failed to keep up with population growth, land was used to grow cash crops for export. Much of the US government's 'Food For Peace' programme, which provided basic grains to Guatemala, was used to generate cash income for the government instead of meeting the needs of the population.

Sadly, there are many other examples of state or state-sanctioned terrorism from across the world: these include events currently taking place in Darfur and Chechnya.

Based on the limited definition of 'terrorism' used by the United States, the US National Counterterrorism Center reported that, during 2006, there were 14,352 terrorist attacks worldwide, which resulted in 20,573 deaths (13,340 in Iraq), with an additional 36,214 people wounded. There were nearly 300 incidents that resulted in ten or more deaths, 90 per cent of which were in the Near East and South Asia. Armed attacks and bombings caused 77 per cent of the fatalities (NCTC 2007).

Acts of violence perpetrated by individuals and non-state groups include the chemical attacks in subways in Japan in 1995 which led to twelve deaths and approximately 5,000 injuries, and the 11 September 2001 attacks which led to almost 3,000 deaths, including those of firefighters and rescue workers who rushed to the scene.

The health and social consequences of the 'War on Terror'

Terrorism and perceived threats of terrorism can have long-lasting social, political and economic consequences: widespread fear, curtailment of civil liberties and the promotion of a dysfunctional climate of fear. Some

governments have also used 'terror' as a pretext for suppressing democracy and legitimate political opposition.

The United States' response to the 11 September attacks is a case in point. Health-related consequences within the US have included interference with training of health personnel, diversion of resources needed for public health and medical care, and erection of barriers to health services. For example, billions of dollars have been spent on emergency preparedness and response capabilities for potential terrorist attacks. While some of these huge allocations of money have improved public health capabilities, they have also diverted attention and resources away from other more pressing public health problems (V.W. Sidel 2004).

There have been many examples of dysfunctional 'preparedness'. For example, a campaign of mass smallpox vaccination was announced by President Bush, despite there not having been any cases of smallpox anywhere since 1981. The focus was on 500,000 military personnel, 500,000 health workers, and up to 10 million emergency responders. Many public health workers expressed concerns about the risks associated with smallpox vaccination and the cost of implementing the programme. Even when it was implemented on a much smaller scale than originally planned, it resulted in at least 145 serious adverse events and 3 deaths (CDC, MMWR 2003) as well as the neglect of other urgent public health problems (Cohen et al. 2004).

In another example, the US Department of Defense (DoD) ordered all US service members to be immunised against anthrax. Reports of adverse reactions and doubts about the effectiveness of the vaccine against inhalation anthrax led a number of service members to refuse, resulting in their demotion, dismissal or court martial. In response to a class-action lawsuit, an injunction was issued against further administration of the vaccine. When the injunction was lifted in 2005, the court ordered that the immunisations be voluntary rather than compulsory. Subsequently, a total of 1.1 million service members have been immunised at a cost of hundreds of millions of dollars.

Another consequence of US 'preparedness' programmes and their political use has been widespread fear through constant reference to current levels of 'terrorism risk' (dramatised by use of five colour codes) and the frequent mobilisation of the emergency services and National Guard. This has enabled the government to gain congressional approval for additional major funding for counterterrorism programmes (M. Sidel 2004; Siegel 2005), not to mention fuelling discrimination against people who 'look like terrorists' (MacFarquhar 2006).

Civil liberties have also taken a pounding. The Homeland Security Act of 2003 has undermined the system of checks and balances that limits the

power of any one branch of government, and has greatly concentrated power in the executive branch and the presidency. Federal actions of doubtful legality include the taping of telephone conversations between people in the US and in other countries by the National Security Agency (NSA) and the request by the NSA to telephone companies to provide records of billions of domestic telephone calls. Further breaches of civil liberties can be seen in an agreement with the European Union to provide thirty-four categories of personal information to US authorities about airline passengers on flights to the US.

For the first time since the Civil War, the US has been designated as a military theatre of operations. This represents a radical change in the role of the DoD and an erosion of the principle that the US military *not* be used for domestic law enforcement.

Finally, international human rights conventions have been violated. There has been torture and other forms of maltreatment of detainees in Iraq and Afghanistan; within the US military base in Guantánamo Bay; and in prisons in Central and Eastern Europe operated by the Central Intelligence Agency (CIA). In addition, the US has participated in acts of 'extraordinary rendition' in which detainees have been transferred to countries with poor human rights records, where they are likely to have been tortured or maltreated (Scheinin 2007).

Measuring and describing war and conflict

The past few years have seen a growing public health movement aimed at ensuring a more complete assessment of the impact of war on human health. Ugalde and colleagues (2000) argue that the long-term and indirect effects of environmental damage and the destruction of schools, electricity networks and sewerage systems must be measured. Most of the 3.8 million civilian deaths that occurred in the DRC, for example, were not directly due to warfare, but to malnutrition, infectious disease, and other indirect effects (Roberts and Muganda 2008).

Others have highlighted the importance of measuring the long-term effects on mental health (Murthy and Lakshminarayana 2006) and the consequences of the damage done to social and family structures and the breakdown of communal ties. And there are costs associated with transgressions in the conduct of war – the more often the Geneva Conventions are flouted, the more likely it is that civilians will suffer in future wars and conflict. But the belligerents involved a war may not want a full and proper assessment of its impact, nor any monitoring of the conduct of war. This section provides two case studies demonstrating the importance of sound

research and the role of academic and non-government organisations in describing the impact and conduct of war.

Counting the dead in Iraq

It is now accepted that the invasion and occupation of Iraq have been a humanitarian disaster. However, what was not readily apparent was the full extent to which the population in Iraq has been brutalised, at least not until a group of researchers from Johns Hopkins University in the US and the Al-Mustansiriya University of Iraq decided to estimate the excess mortality caused by the war.

The first piece of research was published in 2004. It consisted of a survey of 33 randomly selected clusters of thirty households across Iraq that was designed to determine the excess mortality during the 17·8 months after the 2003 invasion (Roberts et al. 2004). The study estimated an excess mortality of 98,000 people (95 per cent CI: 8,000–194,000), over half of which were reported to have been from violent causes. There was widespread vilification of these findings from many quarters.

Between May and July 2006 a second and larger survey concluded that mortality had more than doubled from a pre-invasion rate of 5·5 per 1,000 people per year to 13·3 per 1,000 people per year in the 40 months post-invasion. It was estimated that as of July 2006, there had been 654,965 (CI: 392,979–942,636) excess Iraqi deaths as a consequence of the war.

The research also found that mortality rates from violent causes had increased every year post-invasion. Gunfire accounted for about half of all violent deaths. Deaths from air strikes were less commonly reported in 2006 compared to 2003–04, but deaths from car explosions had increased. Deaths and injuries from violent causes were concentrated in adolescent to middle-aged men, some of whom would have been active combatants. By contrast, before the invasion in 2003, virtually all deaths in Iraq were from non-violent causes.

The estimates were immediately denounced by the coalition forces, Iraq Body Count as well as other researchers and individuals amidst accusations of bad science and irresponsible medical journalism. Certainly there were methodological limitations to both surveys; however, these were carefully explained in the published papers, and conclusions drawn on the basis of conventional scientific practice. A number of potential biases could have over- *or* under-estimated the number of deaths. In fact, according to the UK's Ministry of Defence's chief scientific adviser, the second survey's study design was described as being 'robust' and close to 'best practice', given the difficulties of data collection and verification in the present circumstances in Iraq (Bennett-Jones 2007). Significantly, it was based on primary data

BOX C2.2 **Health and health care in Iraq**

Since 2003, the country's health sector has been in a downward spiral. Supplies of water and electricity are limited, as are medical personnel, equipment and essential drugs. Half of Iraq's 24,000 doctors have left. As many as 185 Iraqi university professors have been assassinated. The Ministry of Health is reported to have lost more than 720 physicians to death or injury (DFI 2007).

Many Iraqis now experience poorer access to water and electricity. The country's water and sanitation system, once the most advanced in the region, is now damaged and broken. Child malnutrition rates have jumped from 19 per cent to 28 per cent since the invasion (NCC/Oxfam 2007).

A recent United Nations Assistance Mission for Iraq report estimated that 54 per cent of Iraqis were living on less than US$1 a day and almost half of all children were malnourished (UNAMI 2007).[2]

collected from households, a method that is superior to data collected from passive surveillance measures, which are usually incomplete, even in stable circumstances.

Apart from the tragedy of the death and destruction in Iraq, what is revealing about these studies is the criticism and denial they engendered from the scientific and media establishment because the findings were inconvenient and uncomfortable. It is to the credit of the researchers and *The Lancet* journal that these detractors were confronted head-on in order to defend both science and the right of the public to crucial information. The continued importance of academic attention to the Iraq War is highlighted by ongoing disagreements about the measurement of deaths and casualties.[3]

Others have also played an important role in highlighting the bias inherent within the mainstream Western media when it comes to reporting on the conduct and impact of war and conflict. In the same way that it has been considered necessary to establish an 'alternative world health report', it has been vitally important to establish a 'watch' on the mainstream global media. One such initiative is Media Lens, which has not just monitored and revealed cases of biased and false reporting on the war in Iraq, but has also acted as a conscience for journalists who want to report accurately and honestly.

The conduct of war in Lebanon

The people of the Middle East have suffered decades of violence. This has included wars and conflict between Israel and Lebanon that have gone on since the 1960s. In July and August 2006 this conflict broke out again, and

ended with Israel launching a 33-day attack on Lebanon, coupled with an air, sea and road blockade that lasted until 7 September.

A feature of the war was the overwhelming force with which Israel attacked Lebanon. Israeli warplanes launched some 7,000 bomb and missile strikes, supplemented by numerous artillery attacks and naval bombardment. Tens of thousands of homes were destroyed or damaged. More than 1,200 people were killed, a third of whom were children under 13 years. Thousands were injured. Over a million people were displaced (Haidar and Issa 2007).

The impact on civilian infrastructure and the environment was catastrophic. Schools, clinics, hospitals, roads and bridges were destroyed or damaged. Power plants, factories and fuel stations were also attacked. A massive oil spill affected 130 km of coastline. The burning of more than 45,000 tons of heavy fuel released noxious chemicals into the atmosphere for weeks (Haidar and Issa 2007).

Hezbollah attacks against Israel also caused death and damage, but on a smaller scale. Its rocket attacks resulted in the deaths of 43 Israeli civilians and 12 Israeli soldiers, as well as the injury of hundreds of Israeli civilians.

The scale of the impact of the war on Lebanese civilians and the apparent disregard for the Geneva Conventions called for independent verification of what had taken place. Israel contended that the high civilian fatality rate was due to Hezbollah's practice of hiding its combatants and equipment among civilians. In September 2007, Human Rights Watch published a report of its research and investigation into the conduct of the war (HRW 2007).

According to HRW, the primary reason for the high civilian death toll was Israel's frequent failure to abide by a fundamental obligation of the laws of war: the duty to distinguish between military targets, which can be legitimately attacked, and civilians, who cannot be subject to attack. HRW found that in the vast majority of air strikes that it investigated, there was no evidence of Hezbollah military presence, weaponry, or any other military objective that would have justified the strike. Throughout the conflict, warplanes targeted civilian vehicles and homes. Israeli officials also stated that they considered Hezbollah's extensive political, social and welfare branches to be part of an integrated terror organisation. Civilian institutions such as schools, welfare agencies, banks, shops and health facilities were therefore targeted.

According to HRW, Hezbollah did at times fire rockets from within populated areas, allow its combatants to mix with the civilian population, and store weapons in populated civilian areas. However, such violations were not widespread.

Israel also made extensive use of cluster munitions, particularly during the last three days of the conflict when a settlement was imminent. The way cluster bombs were used and the reliance on antiquated munitions have left about 1 million hazardous unexploded submunitions in southern Lebanon. As of 20 June 2007, the explosion of cluster munitions since the ceasefire had killed twenty-four civilians and injured many more.

The purpose of this case study is to highlight the need for methodologically sound and independent investigations into the conduct of war. Such investigations are required in many other parts of the world where international laws are being transgressed. They not only place on record the suffering of civilian populations, but they also bolster the work of international judicial bodies in holding governments to account for violations of international law and crimes against humanity. They are important for preventing further atrocities from occurring in the future and are thus an important public health intervention.

Retrospective documentation: Srebrenica

Epidemiologists and statisticians are not the only health scientists with a role to play in accurately monitoring the conduct and effects of war and terrorism. For example, a six-member international forensic scientific team, coordinated and sponsored by the Boston-based Physicians for Human Rights, conducted investigations into the mass graves in the Srebrenica region in Bosnia and Herzegovina, which then provided evidence to the International Criminal Tribunal for the former Yugoslavia.

Conclusion

There are several examples of the health community acting against weapons proliferation, in terms of both weapons of mass destruction and small arms and light weapons. Other efforts led by health workers have included the successful campaign to force the publishing company of *The Lancet*, Reed Elsevier, to divest from its long-standing business of hosting and organising arms fairs.

Beyond restricting the availability of weapons, action must be taken to alleviate the causes of terrorism, including poverty, illiteracy and gender inequality; as well as the practice of religious fundamentalists of all persuasions of encouraging, justifying or glorifying aggression and violence.

It is worth noting the response of the Lebanese people during the war with Israel. In spite of a history of sectarian divides, the homes of people living in relatively safe areas were opened to receive the flood of internally displaced persons from the South. Eyewitness accounts report numerous

examples of spontaneous solidarity between people with religious, political and class differences (Shearer 2006).

In addition to material support, there were many examples of psychosocial support provided to children and families having to cope with displacement, bereavement and ongoing fear (Shearer 2006; Haddad 2006). Part of this response was due to the existence of a network of NGOs with long experience in providing humanitarian relief. Within days of the first attacks, coalitions of NGOs and independent volunteers had been formed, armed not only with practical experience but also with a local knowledge and sensitivity to people's needs and values. The existence of such resilience in the face of war has been described as a 'social vaccine' which protected Lebanon from descending into chaos and collapse.

Standard public health principles and implementation measures can also be applied to help address the problems described in this chapter. These include:

- surveillance, research and documentation;
- education and awareness awareness-raising;
- advocacy;
- implementation of programmes aimed at both prevention and the provision of acute and long-term care.

Those who wish to resist exploitation and oppression often face a dilemma. Should they advocate violent acts, which the powerful define as 'terrorism', or should they advocate non-violent methods? Mohandas Gandhi in India, Nelson Mandela in South Africa, and Martin Luther King in the United States have all argued eloquently that non-violence may be more powerful than violence in resisting oppression. In his speech accepting the 1964 Nobel Peace Prize, King said:

> This award . . . is a profound recognition that nonviolence is the answer to the crucial political and moral question of our time – the need for man to overcome oppression and violence without resorting to violence and oppression. Civilisation and violence are antithetical concepts. Negroes of the United States, following the people of India, have demonstrated that nonviolence is not sterile passivity, but a powerful moral force which makes for social transformation. Sooner or later all the people of the world will have to discover a way to live together in peace.

Notes

1. *Editorial comment*: In the formulation of this chapter we have endeavoured to be particularly sensitive to the strong antipathy held by some to the use of the term 'terrorism', which since 9/11 has been increasingly misused, and often in a discriminatory way.
2. For a more comprehensive and up-to-date summary of the state of health and health care in Iraq, see the 2008 Medact report: Rehabilitation under fire: Health care in Iraq 2003–7. Available at: www.casualty-monitor.org/2008/01/rehabilitation-under-fire-health-care.html.
3. For an overview of this issue, see the casualty monitor website: www.casualty-monitor.org/.

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C3 Reflections on globalisation, trade, food and health

In 2006, the Food and Agricultural Organization of the United Nations (FAO) reported that, despite declining rates of child undernutrition in many developing countries, the number of undernourished people in the world remained 'stubbornly high'. In 2001–03 there were an estimated 854 million undernourished people worldwide (FAO 2006). Since 1990–92 the undernourished population in developing countries has declined by only 3 million people. By contrast, the undernourished population fell by 37 million in the 1970s and by 100 million in the 1980s. Just a year earlier, the World Health Organization (WHO) noted the growing burden of chronic diseases caused in part by unhealthy diets and excessive energy intake. In 2005, 22 million children worldwide were overweight. The WHO predicts that by 2015 some 2.3 billion adults will be overweight and more than 700 million obese.

The WHO has also declared foodborne disease an urgent threat to health. According to the 2007 *World Health Report*, 'although the safety of food has dramatically improved overall, progress is uneven and foodborne outbreaks from microbial contamination, chemicals and toxins are common in many countries.' The extent to which foodborne diseases affect health in developing countries is not fully known, but it is clear that contaminated food affects millions of adults and children every year.

While these global public health problems take on different forms, they are all linked to the production and consumption of food. And while what we eat is ultimately affected by what we do or do not place in our own mouths, there are far larger forces at work. One of these is 'globalisation', a process promoted as a solution to world food problems.

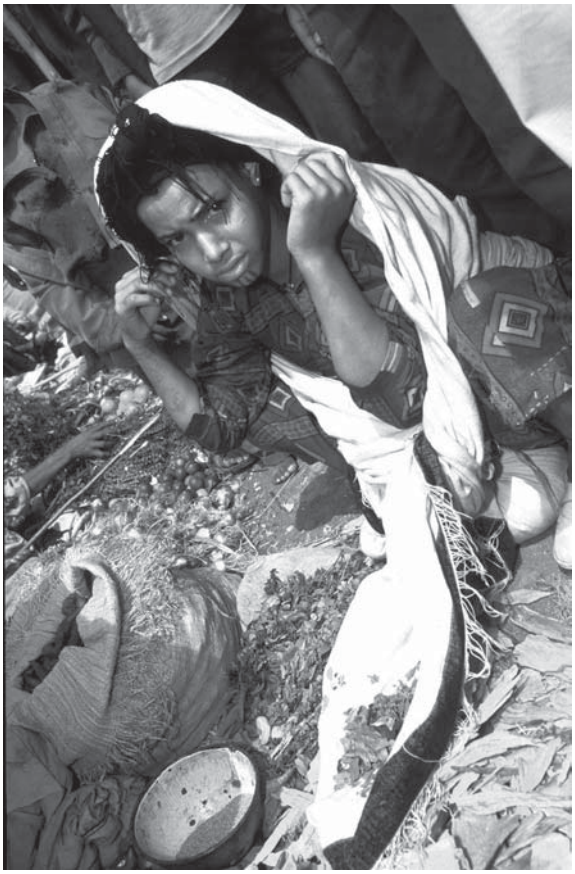

IMAGE C3.1
How will rising food prices affect nutrition of consumers and producers?

The promise of globalisation

Back in the 1970s, state-led intervention in the food and agriculture sector was, according to the theories of neoclassical economics, falling short. In Europe and North America, subsidies were leading to surpluses, so damaging the international market for agricultural products from developing countries. In developing countries, government procurement of agricultural outputs by state marketing boards (to stabilise prices) and the use of trade barriers (to protect domestic food production) were creating 'inefficiencies' by reducing incentives for productivity growth and raising prices. At the same time, because agriculture was seen primarily as fuel for industrial growth rather than as a source of economic growth and development itself, 'discriminatory' policies such as low food prices and land taxes were applied to agricultural producers (Hawkes 2006a). Moreover, millions of people were experiencing food insecurity and undernutrition.

The solution, it was purported, was to reduce or remove state involvement, encourage privatisation and liberalise the agricultural sector. This would shift the sector away from national or regional systems of food self-sufficiency towards a global model. Privatisation, more open trade and export-led growth would lower the costs of production and consumer food prices, prevent fluctuations in food supply and increase farmers' incomes. The net result supposedly would be a food system more responsive to market demands, and more capable of producing food and ultimately leading to greater food security (Babinard and Pinstrup-Andersen 2001). It would also produce a greater and better variety of foods, thus improving diets. Meanwhile, international agreements on food standards would help countries upgrade their national food safety systems and result in better health protection and improved confidence in exported food products on world markets.

That was the promise of globalisation. And the idea prevailed.

In low- or middle-income countries (LMICs), it started with the structural adjustment programmes of the World Bank and the International Monetary Fund (IMF). Countries experiencing balance-of-payments problems were loaned money on condition that they introduce reforms, notably the liberalisation of trade, investment and the financial sector, and the deregulation and privatisation of nationalised industries. Throughout the 1970s and 1980s, many countries opened up their markets by dismantling state food marketing monopolies, reducing subsidies on agricultural inputs (e.g. on fertilisers) and lowering barriers to trade and investment. The globalisation of food and agriculture had begun.

The pace of change speeded up when free-trade agreements became the focus of policy development in agriculture. In 1994, food and agriculture were for the first time included in a multilateral trade agreement, the Agreement on Agriculture. The Agreement pledged countries to open their markets by reducing tariffs, non-tariff barriers, export subsidies and domestic agricultural support.

The 1995 Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) further reduced trade barriers by encouraging countries to adopt the same or equivalent food safety standards. The Technical Barriers to Trade Agreement obliged countries to ensure that national regulations, voluntary standards and conformity assessment procedures – including those affecting food – would not create unnecessary obstacles to trade.

As markets opened up and the role of governments shrank, private property rights were strengthened. The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) expanded the scope of private property rights on food products, including patents on seeds, and

copyright on certain food identities with a geographical basis (for example, champagne) was similarly strengthened.

The dual-track process of liberalisation and strengthened private property rights that handed increasing power to the corporate food industry was also pursued through regional and bilateral agreements. Regional trade agreements were signed at a rate of fifteen per year in the 1990s (FAO 2004). The result of these reforms on the volume of trade was dramatic.[1]

World agricultural trade increased from US$243 billion in 1980–81 to US$467 billion in 2000–01, representing an annual rate of increase of 4.9 per cent in the 1980s, and 3.4 per cent in the 1990s (Ataman Aksoy 2005). For an average developing country, food import bills as a share of gross domestic product (GDP) more than doubled between 1974 and 2004 (FAO 2004). The share of agricultural production that was exported was also increased, from 19 per cent in 1971 to 40 per cent in 2003 (FAOSTAT 2005).

Importantly, the pattern of food trade also changed:

- Food imports into developing countries increased far faster than into developed countries. While gross food imports into developed countries grew by 45 per cent between 1970 and 2001, they grew by 115 per cent into developing countries (FAO 2004).
- There was a large increase in the exports of certain high-value foods from developing to developed countries. Non-traditional agricultural exports, such as fruits, vegetables and flowers, have grown. The amount of fruit and vegetable imported by developed countries increased from 41.1 to 119.2 million tonnes between 1980 and 2003 (FAOSTAT 2005). For fish, developing countries now account for about 50 per cent of world export values, up from 37 per cent in 1976 (Allain 2007).
- There has been a significant variation in the rate of trade between different foodstuffs. The amount of trade in cereals declined relative to higher-value products such as seafood, fruits and vegetables. Whereas cereals once dominated international food trade, they now comprise less than 50 per cent of total agricultural imports by developing countries (FAO 2004). The amount of trade in processed foodstuffs also increased far more rapidly than raw agricultural commodities, largely as a result of increased exports from developed countries (Rae and Josling 2003).

Liberalisation and the growth of TNCs

An important process of trade liberalisation has been the growth of foreign direct investment (FDI) – a long-term investment made by individual, government or enterprise in one country into an enterprise in another.

BOX C3.1 **How trade liberalisation has encouraged the growth of transnational food corporations**

- FDI into the food industry was the key process by which TNCs formed and grew by enabling companies to buy, sell and invest in other companies in other countries.
- The commercialisation and privatisation of state food monopolies (pushed heavily by the World Bank) also opened up opportunities for investment by the private sector.
- FDI into the service sector, the streamlining of dispute settlement mechanisms, as well as stronger and broader intellectual property rights, created a better business climate and increased access to capital and technology, which further encouraged investment by TNCs.
- More liberalised cross-border trade and FDI facilitated 'global vertical integration'. This describes the process of TNCs buying and contracting companies and services involved in all aspects of the production, processing, distribution and sale of a particular food, thereby bringing the entire food supply chain under its control.
- Greater liberalisation of cross-border trade also facilitated 'global sourcing', which is when a company searches for inputs, production sites and outputs where costs are lower and regulatory, political and social regimes favourable. Both vertical integration and global sourcing enable TNCs to cut costs and create safeguards against the uncertainty of commodity production and product sales – thus stimulating further growth of TNCs.

There were a total of 232 international agreements containing investment provisions as of 2005, and the number of bilateral investment treaties rose from 181 to 2,495 between 1980 and 2005 (UNCTAD 2000, 2006). FDI is particularly important to food because it enables companies (usually in North America, Europe and Japan) to buy foreign affiliates in other countries, thus leading to the formation of transnational corporations (TNCs). FDI in the food processing and retailing industries has been key to the growth of transnational food corporations, alongside a range of other trade-related policies and incentives (Box C3.1).

The growth of transnational food corporations has been one of the most transformative processes of food globalisation. These corporations have affected the whole food supply chain: the seeds that are planted in the fields, the fertilisers and pesticides applied to the foods, the production, processing and manufacturing of these foods, and the way they are sold and marketed to consumers. TNCs are now leading traders of food.

The FDI that enabled TNCs to grow and function occurred in three waves, all of which continue today. The first major phase of FDI in the food supply chain occurred in the 1960s–70s when agribusinesses invested abroad in trading and processing raw commodities (e.g. cereals, oilseeds) for export. Most of these mainly US-based agribusinesses, such as Cargill, Con Agra and Archer Daniels Midland (ADM), then continued to expand into different processing activities, foods and geographical regions.

Take the case of Cargill, now present in sixty-six countries. One of its earliest expansions was into Argentina, where it invested in grain trading and animal feed in the 1960s. The company is now the largest Argentine agrifood exporter and the second largest Argentine exporter overall, dealing not just with grains but with oilseeds, poultry, peanuts, olive oil and beef (Cargill 2007). Cargill entered China in the early 1970s and currently sells grains, oilseeds, sugar, fruit juices, meats and other commodities and operates twenty-five companies and joint ventures. The company continues to expand, now affecting much of the food eaten by much of the world. As they once famously commented: 'We are the flour in your bread, the wheat in your noodles, the salt on your fries. We are the corn in your tortillas, the chocolate in your dessert, the sweetener in your soft drink. We are the oil in your salad dressing and the beef, pork or chicken you eat for dinner.'

The second wave of FDI, in the 1980s, was into the manufacturing of highly processed foods – for example, snacks, baked goods, dairy products, soft drinks (Hawkes 2005). Largely through the purchase of foreign affiliates, FDI from US-based food manufacturers alone grew from US$9 billion in 1980 to US$39.2 billion in 2000 (Bolling and Somwaru 2001). The result was successful: sales from foreign affiliates increased from US$39.2 billion to US$150 billion in the same period, and TNCs from both the US and Europe became market leaders in their core brands – such as Lay's potato chips and Nestlé ice cream.

Beginning in the 1990s, FDI penetrated supermarkets. FDI from US-based supermarket chains grew to nearly US$13 billion in 1999, up from around US$4 billion in 1990 (Harris et al. 2002). Leading retailers are now larger than leading food manufacturers in terms of sales (Table C3.1). In Latin America, it is estimated that supermarkets increased their share of the retail market from 10–20 per cent to 50–60 per cent between 1990 and 2000. In China, the supermarket sector is growing at a rate of 30–40 per cent sales growth per year (Hu et al. 2004) The food retail market is becoming more concentrated everywhere through the process of mergers and acquisitions. In 2004, Wal-Mart was estimated to have 6.1 per cent of the global grocery market, with the French company Carrefour at 2.3 per cent. As a result, more people are buying more food in supermarkets relative to smaller

TABLE C3.1 **World's largest packaged food manufacturers and food retailers, by sales** (US$ billion)

	Food manufacturers	Packaged food sales, 2005
1.	Nestlé (Switzerland)	50.3
2.	Kraft (US)	39.2
3.	Unilever (UK/Netherlands)	37.0
4.	PepsiCo (US)	26.8
5.	Danone (France)	21.1
	Food retailers	**Total sales, 2006**
1.	Wal-Mart Stores (US)	312.4
2.	Carrefour (France)	92.6
3.	Tesco (UK)	69.6
4.	Metro Group (Germany)	69.3
5.	Kroger (US)	60.6

Sources: Hendrickson and Heffernan 2007; Euromonitor 2007.

stores, and supermarkets have emerged as dominant players in the food system (Murphy 2006; Vorley 2003). The increase in the value of food sales through supermarkets, especially in developing countries, is also enabling transnational supermarket chains to maintain and grow their profit margins, so further increasing their power in the global food supply chain.

Importantly, the degree of 'transnationalisation' of the world's largest food manufacturers and retailers has grown significantly since the early 1990s. Between 1990 and 2001, the foreign sales of food-related TNCs within the world's largest 100 TNCs rose from US$88.8 billion to US$234.1, with total foreign assets rising from US$34.0 billion to US$ 257.7 billion. The foreign assets of Nestlé increased from US$28.7 billion in 1992 to US$65.4 billion in 2003 (UNCTAD 2006; Hawkes 2005). The degree of transnationalisation of food-related TNCs is also high relative to other TNCs (UNCTAD 2006, 1995).

Food, globalisation and health

What of the promise of globalisation to improve food-related health? Has it increased food availability, lowered food prices for consumers and boosted

the incomes of the rural poor? Has it led to better food safety? Is there now more and better food available at lower prices?

The effect of trade liberalisation on food availability, prices and agricultural incomes has been uneven and context-specific. Trade liberalisation has both increased and decreased food availability, depending on the balance between production, imports and exports. In the most comprehensive assessment of the national impact of trade reform on food security to date, the FAO found enormous differences in the effects on food availability between countries. While in China, per capita supplies of the principal nutrients grew significantly in the post-reform period, rates of change were very modest in Malawi, and in Tanzania they declined (FAO 2006).

The effect on food prices has been equally complex and dependent on the nature of trade reform, the domestic context, and the roles of the private and public sectors. Furthermore, the effect has varied between prices paid to agricultural producers for their products (farm-gate prices) and those paid by consumers (food retail prices). Thus, when lower food prices may have benefited poor consumers (because food was cheaper), they would have had the opposite effect on agricultural households (because they received a lower price for their products). For agricultural households, then, 'trade reform can be damaging to food security in the short to medium term if it is introduced without a policy package designed to offset the negative effects of liberalization' (FAO 2006).

And have food consumers benefited from lower retail prices? Again, the outcome has proved context-specific and by no means certain because lower farm-gate prices may have simply benefited the processors, manufacturers and retailers who purchase the raw commodities, rather than being passed on to consumers. There are surprisingly few data on this issue. What is clear is that despite trade reforms, food prices are now increasing as a result of rising demand from India and China, climate change and diversion of food for biofuels.

Has any of this affected undernutrition? Food availability is one factor in explaining the prevalence of undernutrition. It is estimated that increased food supplies have resulted in significant reductions in malnutrition since the 1970s despite population increases over the period (Smith and Haddad 2001). And retail food prices are critical to consumers who spend a high proportion of their income on food. An important question for the coming years will be how rising food prices will affect nutrition among both food consumers and producers. Concerns are being raised that rising food prices will place the poor at greater risk of malnutrition. But there are also positive implications if poor agricultural households receive higher prices for their products. The balance of effects on producers and consumers remains to be seen.

Moreover, it is important to note that in developing countries the majority of moderate and severe cases of underweight among children below 2 years are primarily caused by inappropriate weaning practices and a high vulnerability to infectious diseases. These primary causes are in turn affected by maternal education, access to health care, sanitation and water. Thus, how trade liberalisation affects these underlying determinants is as important as its effects on the food supply, if not more.

One of the infectious diseases most associated with malnutrition among infants is diarrhoea. And this can often stem from unsafe food. How has the promise of globalisation fared here?

Globalisation is often regarded as a danger to food safety since traded food can introduce new hazards and spread contaminated food more widely. But this is largely a developed-country concern owing to increasing imports of perishable foods from developing countries. There have been some highly publicised cases such as the *Cyclospora*-related illness from Guatemalan raspberries in the US in 1996 (Unnevehr 2003). Although serious when they do occur, such cases remain fairly infrequent and tend to deflect attention away from the far more serious problem of foodborne disease in developing countries.

Most developing countries have weak food regulation systems. The need to adhere to the SPS Agreement presented an opportunity for countries to upgrade their national food safety programmes with some assistance from international and bilateral agencies. In theory, this would improve consumer protection. But the theory has yet to be translated into a reduced burden of foodborne disease for the world's most vulnerable. Rather than focusing on food consumed by the poorest sectors of society, the process of improving standards has focused on where the profit lies for TNCs: foods for export to developed countries as well as foods sold in supermarkets in developing countries. The process is driven by regulations set by developed countries and transnational supermarkets. In developed countries, the range of food safety regulations is wider than ever despite the SPS Agreement (Josling et al. 2004). And globally, more stringent standards have been set by transnational supermarket chains.

Take the case of Kenyan fish exports to Europe. Although there are domestic standards in Kenya, the European Union imposes stricter hygiene and phytosanitary standards on imported fish. As a result of the costs incurred, the final product has become more expensive for the domestic market and little effort has gone into setting and enforcing domestic safety standards. Thus, 'the costs of producing high-quality fish for export largely fall to local communities, while they also bear the cost of consuming unwholesome fish' (Abila 2003).

TABLE C3.2 **Domestic availability and import quantity of vegetable oils, 1980 and 2003**

		1980	2003	% change
Domestic availability (million tonnes)	developed countries	20.6	37.9	84.0
	developing countries	20.8	65.1	213.0
Import quantity (million tonnes)	developed countries	7.1	21.2	198.6
	developing countries	6.0	28.6	376.7
Calories available (per capita/day)	developed countries	310.9	421.7	35.6
	developing countries	132.6	239.1	80.3
Imports (as % of domestic supply)	developed countries	34.5	55.9	62.3
	developing countries	28.8	43.9	52.3

Source: FAOSTAT 2005.

Much of the emphasis on standards has not even been on safety, but on 'quality'. Take the case of the transnational supermarkets operating in Latin America. The main standards imposed by these supermarkets relate to size and appearance, not safety. One study found that just two countries, Brazil and Costa Rica, imposed and enforced food safety standards for fresh produce, whereas supermarkets in all countries imposed quality standards on producers (Berdegue et al. 2003). The privatisation of food safety and quality standards has favoured the relatively small set of more commercialised suppliers to supermarkets. The smaller producers with less capital to meet the standards set by the supermarkets have found themselves relegated to waning and unprofitable markets, again, compromising their income.

Has, then, globalisation fulfilled its promise of bringing greater food variety and choice at lower prices? Processes of globalisation have indeed been able to deliver this in urban areas, as well as in rural areas with access to transportation networks and electricity. But with it has come a new health epidemic: obesity and diet-related chronic diseases because trade liberalisation has increased the availability and lowered the prices of high-calorie, nutrient-poor foods.

Take the case of vegetable oils. Over the past twenty-five years, leading vegetable oil producers – Argentina, Brazil, the United States, Indonesia and Malaysia – implemented policies to facilitate exports. With a more favourable investment environment, TNCs such as Bunge, Cargill and ADM increased their processing capacities through acquisitions and expansions. In Brazil, by the end of the 1990s, the five largest TNCs owned about 60 per

cent of total crushing capacity (Schnepf et al. 2001). In China, the majority of soya beans are now processed in facilities subject to foreign investment.

At the same time, key importing countries like India and China have reduced import barriers (Hawkes 2006b). As a result, vegetable oil exports and imports have soared (Table C3.2). And as imports increased, vegetable oil prices fell, driven by lower costs of production in exporting countries (FAO 2004). The result has been a greater consumption of vegetable oils. Between 1989/91 and 2000/02, calories available from soya oil per person per day increased from 27 to 78 in China, and 11 to 48 in India (Hawkes 2006b). And overall, between 1982/84 and 2000/02, vegetable oils contributed more than any other food group to the increase of calorie availability worldwide. Vegetable oils can thus clearly be implicated in rising dietary fat intakes worldwide. The hydrogenation of vegetable oils for use in processed foods has also led to the increase in consumption of the heart-deadly trans-fats.

The market for highly processed foods has also been profoundly affected by trade agreements. Consider the case of Mexico (Hawkes 2006b). The North American Free Trade Agreement (NAFTA), signed by Mexico, the US and Canada in 1994, contained key provisions designed to facilitate foreign investment. A consequence of these more liberal investment rules was a rapid acceleration of FDI from the US. In 1993, US FDI into the Mexican food processing industry was US$210 million. Five years after NAFTA, the US invested US$5.3 billion in the Mexican food industry, nearly three-quarters of which was in the production of processed foods. FDI clearly stimulated the growth of the processed foods market in Mexico.

Between 1995 and 2003, sales of processed foods (e.g. soft drinks, snacks, baked goods and dairy products) expanded by 5–10 per cent per year. In 1999, processed foods contributed 46 per cent of the total energy intake of children aged between 1 and 4, including a disproportionately large amount of saturated fat (Oria and Sawyer 2007). At the same time, obesity and diabetes have risen to epidemic proportions: the prevalence of overweight/obesity increased from 33 per cent in 1988 to 62.5 per cent in 2004, and over 8 per cent of Mexicans now have diabetes, which the WHO estimates costs the country US$15 billion a year.

Mexico's example is typical: annual sales growth of processed foods has been far higher in developing countries than in developed countries (Table C3.3). Sales of processed products, now criticised in Western markets for their ill-health affects, are now soaring in developing countries. Between 1997 and 2002, average annual sales growth of carbonated soft drinks was 1.4 per cent in the United States, compared with 8.8 per cent in China,

TABLE C3.3 **Growth in retail sales of packaged foods, 1996–2002**

Country group	Per capita retail sales of packaged foods, 2002 ($)	Retail growth of packaged foods 1996–2002 (%)	Per capita growth of packaged foods (%)
High income	979	3.2	2.5
Upper middle income	298	8.1	6.7
Lower middle income	143	28.8	28.1
Low income	63	12.9	11.9

Source: Euromonitor 2007.

7.9 per cent in India, 7.8 per cent in Indonesia and 6.2 per cent in South Africa (Gehlhar and Regmi 2005).

Food: a public health priority

It is easy to argue about the technical outcomes of globalisation policies and processes on food-related health. Food availability goes up and down. Prices change this way and that way. Food becomes more or less safe. Incomes rise for some and fall for others. Regulations and standards have uneven effects. Though it is possible to see positive and negative in all these machinations, something is fairly clear: globalisation has not lived up to its promise. Thus far, it has failed to create a food market that provides healthy and safe food for all. Too many people are still suffering from undernutrition; foodborne disease is only becoming a more serious problem; the burden of obesity and diet-related chronic diseases is ever greater.

There are two possible ways forward. One is to make globalisation work better. This is the approach taken by the multilateral institutions, which recommend programmes to help farmers access international export markets and supermarkets, capacity-building for food safety regulation, and safety nets for the poor (though they tend to be silent on the issue of obesity). A second is to fight food globalisation. Groups of farmers and landless peoples the world over are, for example, pursuing the concept of 'food sovereignty' – that is, the 'right of peoples to define their own food, agriculture, livestock and fisheries systems' – in contrast to having food largely subject to international market forces. Whatever way, given how integral food is to our health, the health community needs to act. Healthy food production and consumption should be a global public health priority.

Note

1. As agricultural trade has increased, so has the volume of agricultural production, notably of the higher value products, which have also experienced the fastest rates of increase of trade. Indeed, between 1982 and 2002, the highest annual percentage rate of increase was for vegetables (4.2%) and oilcrops (3.8%), followed by meat (2.8%), fruit (2.4%), and fish (2.4%), with the lowest rate for cereals (1.1%).

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C4 **Urbanisation**

More than half of the world's population now live in urban areas. At the end of the nineteenth century less than 3 per cent of the world's population lived in towns and cities (Weber 2007), and in 1950 Africa and Asia were still almost wholly rural. The pace of urbanisation in the past twenty years has been especially high in the poor regions of the world where the growth of informal settlements has brought with it attendant problems of environmental health (UN Habitat 2006). These informal settlements, generally called 'slums'[1] in UN literature, are characterised by poverty and precarious living and working conditions (Kjellstrom et al. 2007). In a context of intensely competitive demand for land in cities, the residents of these settlements often have little or no claim on city or national governments.

Three associated trends are worth noting. First, the cities of developing countries will absorb 95 per cent of all urban growth over the next two decades, and by 2030 will be home to almost 4 billion people, or 80 per cent of the world's urban population. Second is the increased urban–urban migration and the reclassification of many rural areas to urban,[2] both of which contribute to the urbanisation in Africa, Asia and Latin America. Third is the seemingly contradictory trend of, on the one hand, the increasing number of 'metacities' and 'megacities', with conurbations of over 20 and 10 million people respectively, and, on the other hand, the population growth of medium-sized cities, of fewer than 500,000 inhabitants.[3] Already more than half of the world's urban population live in cities of fewer than 500,000 inhabitants and almost one-fifth live in cities of between 1 and 5 million inhabitants (UN Habitat 2006).

The above trends are significant in understanding the phenomenon of urbanisation, even though countries employ different definitions of 'urban'

IMAGE C4.1 **Rio**

which may also change over time (Satterthwaite 2006; Vlahov et al. 2007). Many question the very concept of a rural–urban divide, noting that 'village communities' exist within cities and that urban societies exist in rural areas (Pacione 2005; Pahl 1965).

This chapter examines the associated health and environmental problems caused by the rapid growth of cities and the challenges of rapid urbanisation, including urban poverty and the attendant growing inequities now seen within as well as between many cities of the world.

Understanding the nature and context of urbanisation

The current nature of urbanisation can only be understood within the macro-political and social contexts of individual countries and overall global trends. For example, what are *the process and causes* of urbanisation, particularly with reference to the political economy and the impact of capitalism on rural areas?

First, the most important driving factor of global urbanisation is natural population growth in existing urban settings. However, rural-to-urban migration is an important factor in some contexts. As described in Chapter

C3, agricultural sector policies in Asia and Africa which have reinforced colonial patterns of agricultural production and stimulated the growth of export-oriented crops at the expense of food crops have dramatically increased rural poverty. This process also takes place in Latin America, in particular in Brazil. Moreover, in Asian countries the Green Revolution plays a role. Deforestation, mining and hydroelectric projects have also contributed to landlessness and the forced displacement of millions of people, leading to even deeper levels of rural poverty. Consequently, people have been pushed from rural areas and pulled into cities, in search of better sources of livelihood.

The poverty of recent migrants is aggravated by the losses of subsistence farming opportunities and the supportive kinship ties that exist in rural areas. Migrants are particularly affected by social and economic exclusion and often have no access to health care, education or decision-making.

Changes brought about by economic globalisation include the weakened ability of governments and nation-states either to influence or to control the external forces that impact on local economic and health development. Many cities are drawn into the dominant chain of global economic activity and have become focal points for foreign direct investment, while productive capacity is often restricted to a limited number of cities. 'Global' cities such as Bangalore and Johannesburg combine rapid economic growth – which benefits an affluent minority – with rapid urbanisation of poverty, environmental degradation and a weakened social fabric.

An accompanying change is the accelerated *informalisation* of the urban economy, coupled with *de-industrialisation* (UN Habitat 2004), leading to increasing underemployment (ILO 2005).[4]

These social and economic changes affect workers, but also impact on the governance of cities, as public authorities are unable to obtain the revenues required to provide public services. Also worth noting is the weakening of national and local public institutions, relative to the arrival of powerful multinational, external private-sector companies, following the advent of neoliberal policies in the 1980s and 1990s.

Other new challenges posed to the global community are the effects of migration and industrialisation, notably due to climate change and several aspects of environmental degradation. Security analysts fear that the tidal wave of forced migration will not only fuel existing conflicts, but create new ones in some of the poorest and most deprived parts of the world. Furthermore, as noted in Chapter B3, most of these refugees will become internally displaced peoples who will end up in the informal settlements and 'slums' of cities and remain largely invisible to the people of the rich world.

The health implications of urbanisation

In a context of limited financial resources and weak institutional capacity, urban services and infrastructure development have not kept pace with urban population growth in many cities of developing countries. Public institutions have failed to anticipate, adapt and manage urbanisation and its impact on population health, and an increasing proportion of people are expected to be without adequate housing, water supply, drainage and sanitation facilities (see Chapter C5). Furthermore, information systems in many least developed countries often do not capture the living conditions, environment and health status of populations living in unplanned and informal urban settlements and these remain outside official government records.

Disaggregated data reveal urban informal settlements as areas of concentrated disadvantage. When data are not disaggregated and one standard is applied across urban and rural divides, the peculiar situation and needs of the urban poor are hidden. But where disaggregated data exist, they reveal startlingly high intra-urban inequalities related to socio-economic status and living conditions. One study of twenty-three countries highlighted that inequalities are generally greater within urban areas when compared with rural areas, except in countries where rural economies are structured around plantation agriculture (Mitlin 2003).

Urban dwellers who live in these settlements contend with three groups of factors which combine to keep them perpetually at health risk. First are the direct effects of poverty: low income, limited education and unequal access to food. Second are man-made conditions of the living environment: poor housing, overcrowding, pollution and increased exposure to infectious diseases. In informal settlements, the ratio of population to water and sanitation facilities, if available, is quite high. Even the minimum standard of one standing tap to 200 persons proves highly inadequate. Third are social and psychological problems due to the lack of social support systems, urban violence and the impact of social exclusion.

The urbanisation and feminisation of poverty have a direct bearing on the progress and well-being of women and girls. An additional concern is meeting the challenges of physical and psychological development faced by adolescent boys and girls in informal settlements (see Box C4.1). These manifest in unwanted pregnancies, sexually transmitted diseases, illegal and unsafe abortion, sexual exploitation, early marriages, malnutrition, drugs, substance abuse, violence and trauma. Youth violence is one of the most severe public health problems in many cities of the world and it could be an even more important burden of health in the future. In Cali, Colombia,

BOX C4.1 **Health risk of street children**

Tanzania is one of the countries with the highest number of urban street children. According to recent estimates there are 3,000 street children in Dar es Salaam. Most come from rural areas and have either left or been abandoned by their families. Living on or off the street is a survival strategy for children orphaned by AIDS when their family or community cannot support them. A study into the effects of street life on children's health showed that the unhealthy urban environment has a major impact (Lugalla and Mbwambo 1999). While boys can find some casual work in the informal sector, girls often end up as commercial sex workers and face a much greater risk of becoming HIV-infected. In Mwanza, 80 per cent of the street girls had suffered an STI at least once, compared with 30 per cent of the boys (Rajani and Kudrati 1996; Williams 2007).

homicide rates of up to 200 per 100,000 inhabitants have been recorded in the most deprived neighbourhoods (Rodriguez 2006).

Climate change is expected to affect, in particular, cities in developing countries; within those settings, the urban poor are most at risk (Campbell-Landrum and Corvalan 2007).

A critical review of the Healthy Cities initiative

Addressing the health needs and increasing health inequities of urban populations in the context of economic globalisation, persistent and high unemployment, economic stagnation, climate change and weak national and local public institutions demands a radical reorientation of public health systems, policies and processes. Fundamentally, there is a need to break out of the common single-sector approach and the patterns of narrow focus of single-issue programmes[5] that are designed in isolation of the local context and without proactive efforts to engage with and to develop capacity of community-based organisations, particularly those living in poor and informal settlements, in empowering initiatives. There is a need for a systemic approach to build effective public policies that improve living conditions and the environment and reduce health inequities.

The Healthy Cities and Municipalities Movement (HCMM) was initiated by the World Health Organization (WHO) in Europe in 1987, and subsequently taken up in other regions, and in others developed differently without its explicit identification as a 'healthy setting or healthy city'.

The HCMM was an important development because of its focus on the role of political leaders, intersectoral collaboration and participatory governance in policymaking and programme development, rather than a response that decontextualises health and medicalises its response. Indeed, it has been used in many countries as a platform for legitimising and supporting community-based civil society initiatives, often in collaboration with local governments and health systems (Perez Montiel and Barten 1999). Also explicit was recognition of the need to challenge power relations between public-sector providers and the people they serve. The HCMM was not conceived of only to improve health; it also aimed to tackle the power imbalance between the public and government; between people and bureaucrats; and between the poor and professionals. The HCMM also placed emphasis on equity and social justice.

The collective experiences of HCMM have provided valuable lessons, both positive and negative. Among the strengths have been the value of an area-based approach to population health rather than the traditional vertical, issue and disease-based approach; the recognition that shared ownership across official institutions and community-based organisations has to be actively developed, with capacity-building required by both communities and the professionals engaged in the initiatives; and that successful initiatives were sustained by a strong social vision by community members (Baum et al. 2006; Mendez and Akerman 2002). Also important was the recognition that health cuts across different policy sectors, which led to the development of mutually beneficial links with other global initiatives focusing on the improvement of the environment and quality of life in cities. These include Local Agenda 21, Habitat and the Initiative Local Facility for Urban Environment (LIFE). Among the many benefits of the collaborations has been the heightened profile in health within these initiatives, along with the strengthened urban planning and environmental profile of the HCMM.

The constraints and inherent contradictions, however, have meant that despite the progressive rhetoric and frameworks, the HCMM as a whole has been unable to achieve its intended radical agenda. Instead of power-sharing, the traditional power imbalance between the sectors have been maintained (Mendez and Akerman 2002; Ziglio et al. 2000), with the authorities dominating the priorities, the processes and the extent of engagement (Stern and Green 2005). This has been manifest in several ways. Technical solutions have replaced the ideal of addressing fundamental contextual and power-related issues, and flexible and innovative local partnerships have been stifled by hierarchical and vertically structured bureaucracies (Harpham and Boateng 1997; Pickin et al. 2002).

Control over civil society organisations (CSOs) by national governments and/or donors has also predominated in some countries, with priorities and funding favouring selective, vertical programmes that focus on single issues rather than 'bottom up' participatory and intersectoral initiatives and comprehensive approaches at all levels. In addition, in many instances CSOs have become delivery agents for donor-funded programmes, causing the energy for social and political mobilisation to be dissipated, directed towards competing for funds or controlled by the donors.

Perhaps the starkest contradictions are the attempts to develop HCMM initiatives within a context of neoliberal reforms, such as privatisation and outsourcing in many cities. On the one hand, HCMM was promoting social development and community participation, while on the other policies were promoting the market and converting 'community members' into 'individual consumers'. Also contradictory is the local HCMM focus on equity, at a time when globalisation is making it increasingly difficult for local actors to address many of the fundamental driving forces of poverty and inequality. Many of the HCMMs have been developed in a context of structural adjustment programmes (SAPS) and, in many cases, political upheaval and the near collapse of public health systems.

The HCMM has nevertheless been an important landmark. The framework provided by the HCMM, along with its principles now echoed in the Commission on Social Determinants of Health, provide an opportunity and a challenge for progressive civil society to build on the rhetoric to strengthen their role, relevance and impact.

Governance and health issues in cities: water and sanitation

The tensions and contradictions inherent in the HCMM become clearer as we examine the provision of safe water and sanitation for the poorest and most vulnerable people living in cities of developing countries.[6]

Inadequate supply of drinking water and sanitation at the household level remains the most critical and widespread water-related problem in low-income urban settlements. Despite this, financial allocations to the water sector as a whole are shrinking. Unreliable coverage data and limited transparency in governance further inhibit effective planning for utilities by governments and communities.

The low priority and low level of resources accorded to sanitation are further exacerbated by poor coordination, unclear roles and responsibilities, and conflicting policy, legal and regulatory frameworks. For instance, sanitation is the responsibility of several government departments, which operate conflicting policies and regulatory regimes. Because targets are

BOX C4.2 **People-centred drinking water and sanitation services in Venezuela**

The desire to re-establish citizen involvement in the management of water services led the Venezuelan water sector to discuss and debate the communal management of Hidrocapital, the water company of the capital, Caracas. Following on from this, the authorities adopted the development of 'Water Technical Roundtables' and 'Water Communal Councils', designed to harness the knowledge and skills of the community to help solve the problems of the water sector. They facilitated 'community mapping' which harnessed the knowledge of community members about the location of the various installations of the water service network; the diagnosis of problems; and the formulation of repair and maintenance plans.

Water Communal Councils provide a platform for communities, Water Technical Roundtables, representatives of the Hidrocapital and elected local government officials to exchange information, discuss and debate. They are open to all citizens and meet at a regular time and in a well-known place. They help to prioritise needs on the basis of inputs from all sections of society; organise a work programme agenda to which both the water company and the community commit; and exert social control over the public company.

Within five years, there has been a transformation of the water and sanitation sector, not least of which is the public water companies meeting with citizens, and the increasing number of communities that are managing their own water resources.

Source: Rodríguez 2005.

often set at the aggregate level, issues of exclusion and inequity and of sustainability and long-term functionality are not addressed.

Revamping the operations of public utilities is critical to fulfilling the water and sanitation Millennium Development Goals (MDGs), especially for the urban impoverished population. Public utilities currently provide as much as 95 per cent of coverage for up to 35–45 per cent of urban residents served by a piped network supply. Even during the height of the privatisation era in the 1990s, private-sector investment in water and sanitation was only 5 per cent of all private investments in infrastructure.[7] According to the World Development Movement, only 1 per cent of promised private sector investment in water globally since 1990 was targeted at sub-Saharan Africa.

However, public utilities have not taken the measures to improve and extend provision in urban areas. Governments, international finance institutions and donors must now move away from debating the pros and cons of privatisation towards determining how public-sector utilities can turn around their performance, promote 'public–public partnerships' and help utilities in developing countries improve services through peer support and collaboration (see Box C4.2).

The recognition of non-state providers (NSPs) or small-scale service providers (SSSPs), including community-managed systems, as the dominant providers for the poor in slums and peri-urban settlements is also pertinent. NSPs serve between 30 and 60 per cent of urban residents through a variety of formal and informal arrangements. However, the sector currently lacks the governance and regulation required to secure the necessary standards of water cleanliness at affordable prices.

Participatory governance

Participatory governance is an important tool of development, which is gaining an increasing acceptance in all sectors. In some policy contexts community involvement in water and sanitation and alliances between government and civil society organisations are contributing to achieving best practices and sustainability. Examples of best practices abound globally.

Partnership and resource mobilisation

Several donors have shown commitment to the concept of public–private 'partnerships'. In line with this concept, the UN outlined the concept of Water Operators Partnerships (WOP). UN-HABITAT's Water and Sanitation Trust Fund uses 'partnership' as the key strategy for leveraging more funds and expertise for the water and sanitation sector. With modest sums, the agency is partnering with development banks and other international finance institutions to leverage more funds in grants and these are being followed up with increased investment loans. Through such partnerships, a synergy is built to ensure sustainability.

The role of civil society in water governance

Many past efforts to sustain improved water and sanitation services in urban centres have failed as supportive capacity-building was not clearly thought out in the planning design stages of the systems, in local or regional institutions. The resultant lack of human resources and capacity to operate and maintain the existing systems is one of several reasons that has led to the poor performance in the water and sanitation services in urban areas, especially in the slums.

BOX C4.3 **Partnership for pro-equity water supply and sanitation, Madhya Pradesh**

'The Slums Environmental Sanitation Initiative (SESI) was set up as a pilot project in October 2005 and was to be executed in four project cities in a tri-partite partnership model.' The project brought together resources and expertise from the UN-HABITAT, WaterAid India and its local non-governmental organisation (NGO) partners and the four municipal corporations of Bhopal, Gwalior, Jabalpur and Indore for the benefit of 20,000 households, with each city identifying poverty pockets of 5,000 households which lack water and sanitation infrastructure. The project creates awareness among the people about the use of sanitation facilities in informal settlements.

Based on a situational analysis, the SESI projects are being implemented in these areas. The local partner NGOs play pivotal roles in mobilisation of the residents to form Community Water Supply and Sanitation Committees (CWASC), some of which are now registered as legal entities. The Community toilet has separate toilets for men and women, disabled and the elderly. There are also child-friendly toilets for boys and girls as well as bathing facilities for men and women.

Already, sixteen poverty pockets within the participating four cities have become the first open defecation-free 'slums' in India. Recently, the government of Madhya Pradesh State has drafted the State Sanitation Policy.

Source: Water for Asian Cities 2007.

Also there are many dynamic NGOs and community-based organisations at the local level that have developed and sustained innovative initiatives, but there are few linkages with city-level government, meaning that good practices are seldom replicated or properly evaluated with respect to their impact on local government systems. UN-Water for Cities programmes add value to the services delivery sector by developing the capacities of civil society organisations through technical cooperation and demonstration of community-oriented water supply and sanitation. These investments enhance the possibility for an acceptable degree of ownership, which to a good extent ensures a higher rate of return on investments by international finance institutions (IFIs) and assures sustainability and a credible level of output from facilities.

Recommended policy responses for reducing inequities[8]

- *Political commitment* is critical to addressing urban health inequities. This includes ensuring that all enjoy the right to the city and that health equity initiatives target and engage those most in need.
- *A systems approach* which acknowledges the relationship between urban and rural development and the influence of supra-local factors and need for action on local, national and global determinants is required.
- *Effective or healthy governance*. It is impossible to address the social determinants of health inequities in isolation from the broader remit of management of national development, or from the wider macro-policy level environment of decision-making.
- *Develop capacities of CSOs* for meaningful participation at all levels.
- *Develop a local knowledge base* that captures the reality of informal settlements.
- *Strengthen relevant existing initiatives* and processes.
- *Equip local government* with sufficient means and resources. Decentralisation has been recommended as a tool to strengthen local authorities for more effective service delivery, but the devolution of functional responsibilities has presented local governments with a major challenge, compounded by adverse economic and political conditions. Municipalities need to be strengthened to achieve a match between their newly acquired responsibilities to provide services and to fund capital improvements, and a higher degree of control over their revenue sources.

There is clearly an important role for public health advocates to play at the interface between essential services, urban planners, water and sanitation providers and education. There is also a need to develop the capacities of community-based, civil society organisations and local governments to ensure effective public policies that address social exclusion and reduce urban health inequities.

Conclusion

The complexity and magnitude of the problems of the urban social and physical environment posed by the current trends of urbanisation, migration, climate change, conflict and uneven development are immense. Although the MDGs have acknowledged the need to reduce urban poverty, the implications of the urban context for policy and for the achievement of all MDGs are not sufficiently understood. The renewed interest in Primary Health Care (PHC) and the WHO Commission on the Social Determinants of Health provide a new opportunity.

It is clear that improvements in health and health equity demand not only changes in the physical and social environment of cities, but also approaches that take into account wider socio-economic and contextual factors. The creation of more and better employment and social protection is a crucial challenge. Health systems have an important role to play, particularly at primary care level, where the interaction with communities is facilitated and the linkage between health and living conditions cannot be neglected. Disaggregated information on the (potential) health impact of policies and decisions taken by other sectors and governance levels is important. Comprehensive PHC can play an important role in developing the capacities of civil society and community-based organisations in order to ensure meaningful participation, to influence policymaking processes and to guarantee the right to the city for all.

While it is important to acknowledge how bottom-up participatory processes can contribute to sustainable health plans and healthy urban settings, there is also a need for local actors to address the supra-local and global factors that impact on cities and the distribution of power and resources. Duhl (1984), in his seminal paper on 'Healthy Cities', argued for the need to conceive of the city as *a whole*. Barten et al. (2006), in their recent analysis of the need to address social determinants of health to reduce urban health inequity, argue that it is necessary not only to conceive of the urban setting as a whole, but also to take a *national and global perspective* on the social, economic and political determinants of urban health inequity.

Notes

1. The identification of an area as a 'slum' contributes to stigma and discrimination against its residents. Also, the labelling of 'slums' excludes even more deprived areas.
2. Reclassification can be due to increased population or the redefinition of an urban area. Several countries face this dilemma following population growth or political pressures.
3. It is almost impossible to determine the cut-off for a city as different criteria are applied by countries. These classifications are therefore more for illustration than the rule.
4. This is a situation where qualified labour engages in less lucrative or less skilled jobs (such as petty trading) following a retrenchment or lack of job opportunities.
5. These focus mainly on effects instead of addressing the political, social, economic and environmental determinants.
6. For a detailed discussion on the social and health consequences of water and sanitation shortages, see Chapter C5. Also see *Global Health Watch 2005–2006* for a discussion on the privatisation of water and sanitation.
7. *International Herald Tribune*, www.iht.com/articles/2006/03/20/news/water.php.
8. Taking into account the impact of climate change.

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C5 The sanitation and water crisis

One of the greatest public health crises in the developing world is largely being overlooked by donors and developing-country governments alike. In the developed world, the greatest advances in increasing life expectancy and reducing infant mortality rates came as a result of public investments in clean water and sanitation. But the potential these two sectors hold for advancing public health in developing countries today is being overlooked by donors who favour investments in curative approaches to health.

While the water and sanitation sectors remain largely sidelined by governments, it is the poor, on the rare occasions when they are asked, who repeatedly put water and sanitation as their highest priorities. So, the paradox is that while donors and recipient governments continue to marginalise the sector, the evidence in the form of international commitments to the Millennium Development Goals (MDGs) and the preferences of the poor points to the need for a much greater effort on the part of the official development community. This chapter shows the scale of the main challenges involved in the water and sanitation sectors and points to some of the strategies needed to turn around what is, arguably, the biggest driver of infant mortality in the developing world.

The scale of the problem

The key starting point to understanding the scale and nature of the sanitation and water crisis is grappling with the available data sources. The main global sector survey report is provided in the biannual Joint Monitoring Programme (JMP) survey (JMP 2006).

BOX C5.1 **The MDGs**[1]

At the United Nations' Millennium Summit at the turn of the century, heads of government signed up to the goal of halving the numbers of people living in poverty and a series of other Millennium Development Goals, including providing access to the core essential services – primary education, primary health care and access to safe water.

The seventh MDG is to ensure environmental sustainability. One of the specified targets linked to this goal is 'to reduce by half the proportion of people without sustainable access to safe drinking water and sanitation'.

Access to water

According to the JMP's 2006 figures, the world is 'on track' to meet the MDG target for water supply coverage. However, while this represents some progress, there are three major concerns.

First, the JMP warns that the improvement trend is deteriorating. Table C5.1 shows current and projected rates of progress. On current trajectories, the current rate of progress is expected to slow and the world will end up missing the 2015 MDG target. And, even if progress *is* accelerated sufficiently to reach the target, nearly 800 million people will still be 'unserved' and will daily face life-and-death choices in where and how they source their drinking and domestic water supply.

Second, the figures shown above obscure the presence of huge regional disparities. While the most populous countries are on track, most of sub-Saharan Africa (SSA) is lagging well behind. While coverage in SSA has improved from 49 per cent to 56 per cent, on the basis of the current trajectory, the report speculates, the continent will not achieve its MDG goal until as late as 2076.

TABLE C5.1 **Global water coverage and MDG 7**

	1990 (actual)	2004 (actual)	2015 (projected)	2015 (target)
Served (million)	4,092	5,320	6,300	6,425
Unserved (million)	1,187	1,069	919	794
Unserved (%)	22.5	16.7	12.7	11.0

Source: JMP 2006.

IMAGE C5.1
Young girl carrying water

Third, the JMP analysis is almost certainly an overestimate of access to (where this is taken to be synonymous with *usage* of) safe domestic water. The JMP definition of access is 'the availability of at least 20 litres per person per day from an 'improved' source within one kilometre of the user's dwelling'. An 'improved source' is 'one that is likely to provide 'safe' water, such as a household connection or a borehole', and 'be within a reasonably convenient distance from the home, to ensure that sufficient water can be used'.[2] So, at the extreme, a household accessing its water from a borehole 1 kilometre distant from the home is defined as 'having access to safe water'.

The tyrannies of physical distance, the lack of controlling standards and the sheer weight of water hauling suggest the need for some serious qualifications around claims of the numbers of people gaining access to safe water. Not all improved sources yield safe water (as defined in WHO standards) and, even if they do, water which is safe at the point of source may be contaminated in transit so it is not safe at the point of consumption. The labour and time involved in carrying large volumes of water large distances result, unsurprisingly, in smaller volumes of water *actually* being hauled than instances where the locations are closer to the source. Many people are simply unable to walk these sorts of distances and carry the weight of water for their own, and their dependants' needs. With reducing consumption per capita comes a decreasing ability to meet minimum requirements for health and hygiene.

Thus official descriptions of reported availability do not necessarily equate to access. Access is not the same as consumption. It is the pattern and content of *consumption* that is the critical determinant of health and hygiene.

FIGURE C5.1 **The price of water**

Source: WaterAid 2007.

So, the figures for people who do not *consume* safe water are higher than those for people who do not have *access*, as presented in the JMP.

However, irrespective of the selectivity of data and the accuracy of the nature of the water crisis they represent, the critical driver behind the crisis is the central problem of inequality in the distribution, entitlement and allocation of supply. Most human consumption of fresh water is taken up first by agriculture, then by industry. Other key issues regarding water sources come in the form of rapid urbanisation and the cost of extracting ground water. While there are new large uncertainties on the horizon – particularly the hydrological unpredictabilities associated with climate change – the central problem across rural and urban areas is that while there are sufficient volumes of water for domestic consumption, the issue is one of how that supply is managed and distributed (and therefore limited) for the domestic consumption of the poor. In addition, climate change is anticipated, in some geographical areas, to become a further limiting factor.

Equity in the distribution of access to water

The maxim is that the poorer you are, the more you pay. If you live in an urban slum, you will pay up to ten, or even twenty, times as much as the people who have yard connections in an adjacent residential area. And

even that will pale into insignificance when set against the amount paid by people in the rich countries of the North. Slum dwellers of Lagos pay some forty times the amount paid by someone in a downtown New York apartment – and this does not even take into account income disparities.

Access to sanitation

Is sanitation an outcome or a driver of underdevelopment? While the situation with regard to water is grim and acts as a continuing driver of underdevelopment and avoidable disease, the situation when it comes to sanitation is nothing less than scandalous.

Starting from an even lower rate of coverage than is the case with water supply, the required rate of improvement was always going to be higher for sanitation. But, as Table C5.2 shows, more than 40 per cent of the world's population (about 2.6 billion people) did not have access to 'improved sanitation' in 2004, and it is predicted that the world will miss the MDG sanitation target by over half a billion people. In some locations, particularly in some of the mega-cities, the rate of coverage is actually slipping, as populations soar and the increasing and large-scale pattern of rural to urban migratory flows is leading, in some cities, to the 'slumisation' of the majority of human habitats. And, even more so than with water, the JMP data represent an overestimation of coverage. Measurement is carried out by extrapolation from surveys in which people are asked what type of latrine/facility they use. The data-gathering methods can lead to skewed and inaccurate results where people can be embarrassed to admit to open defecation, or to the use of non-sanitary methods of disposing of faeces.

The grim reality millions of people is a depressing and undignified life of having to live in a smelly world full of untreated shit. In many areas, people are reduced to defecating in plastic bags and throwing their faeces ('flying latrines') into ditches; they may defecate in fields and behind bushes, or in flimsy structures from which their faeces fall into ponds or lakes ('hanging

TABLE C5.2 **Global sanitation coverage and MDG 7**

	1990 (actual)	2004 (actual)	2015 (projected)	2015 (target)
Served (million)	2,569	3,777	4,829	5,414
Unserved (million)	2,710	2,612	2,390	1,805
Unserved (%)	51.3	40.9	33.1	25.0

Source: JMP 2006.

IMAGE C5.2 **Child collecting water in Indonesia**

latrines') and contaminate sources of drinking water. Children walk over faeces-ridden fields barefoot to schools.

While it is possible to describe at length the social and economic inconveniences associated with inadequate basic sanitation, the fact that tends to be overlooked by much of the donor community is that it is a huge silent killer in the developing world and most of its victims are children.

It is a paradox of the aid system that while the developed world and some of the East Asian tigers saw investments in sanitation as critical to achieving huge public health gains, it is arguably one of the most sidelined of all development sectors and it is being overlooked with widespread lethal results.

The underestimated social and health consequences

The World Bank has identified hygiene promotion as the most cost-effective of all interventions to control high-burden diseases in the developing world, with sanitation promotion close behind (Laxminarayan, Chow and Shahid-Salles 2006). Additionally, in a recent poll conducted by the *British Medical Journal*, the provision of 'clean water and sewage disposal' was voted the greatest advance in medicine in the last 150 years, outscoring antibiotics, vaccines, anaesthesia and the discovery of the structure of DNA.

BOX C5.2 **The slums of Tiruchiripalli**

Due to lack of drainage facilities, water stagnation was common. Moreover lack of toilets or lack of toilet use where this facility existed led to open defecation being practised by the entire slum community. It was common to see entire areas polluted by human faeces. As both sexes used the same spot, women and men had different times for defecation, leading to problems for women. Women thus practised defecation either in the early morning or at night while men and children used the same spot at any time during the day.

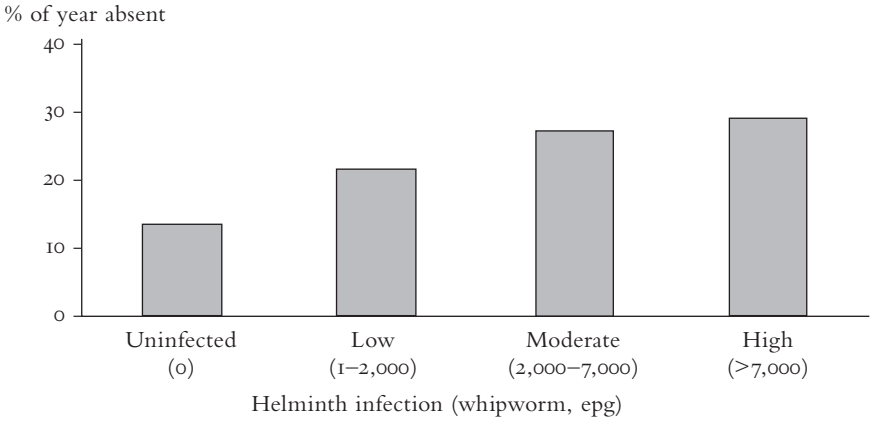
Source: Damodaran 2005.

The *direct* health consequences of poor hygiene and sanitation are generally well known. It is estimated that nearly 5,000 children die *every day* from the effects of diarrhoeal illnesses, 90 per cent of which are attributable to poor hygiene, sanitation and unsafe water (UNICEF 2006). Improved hygiene, particularly handwashing with soap, could also halve the incidence of acute respiratory infections, a leading cause of childhood death worldwide, by interrupting the route of infection from contaminated hands (Luby et al. 2005). In countries with high infant mortality rates, the lack of access to clean water and sanitation kills more children than pneumonia, malaria and HIV and AIDS combined. Half of the world's hospital beds are occupied by people suffering from waterborne diseases. Hygiene and sanitation also help to control many non-fatal diseases which afflict young children, such as intestinal parasites, blinding trachoma and impetigo. Finally, improved hygiene and sanitation have important positive impacts on the quality of life enjoyed by children, including the benefit of being part of a household with a greater chance of escaping poverty.

Poor access to water and sanitation also has a wide range of *indirect* health effects. In rural areas, women and girls have to walk often long distances to waterholes or rivers to scoop up to 20 litres of water into a container and carry it back to their homes, maybe twice or three times a day. In northern Ghana girls spend up to five hours a day fetching water. On average, a sub-Saharan African woman living in a rural area will spend more than two hours a day fetching and hauling water. In cities, women may have to wait for hours at a standpipe or buy water from an unregulated vendor at extortionate prices.

The lack of access to a private latrine also carries a number of often unrecognised problems, as depicted by the description in Box C5.2 from the slums of Tiruchiripalli in India. In addition to the pain and health risks

FIGURE C5.2 **Effects of poor sanitation on school absenteeism**



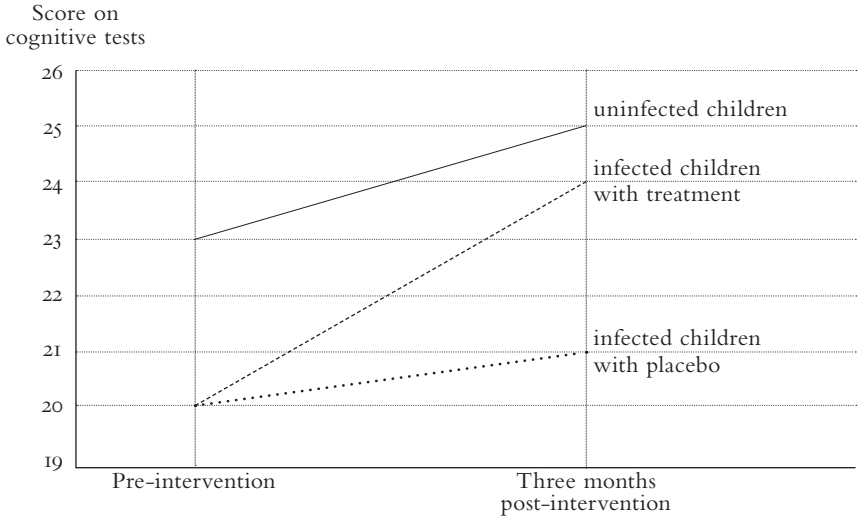
Source: Nokes and Bundy 1993.

of having to control bodily functions, and the indignity associated with open defecation, women are vulnerable to sexual and other violent abuse when going out at night to defecate.

Poor access to water and sanitation also has important knock-on effects in terms of the attainment of educational goals, particularly for girls (DFID 2007). Girls stay away from school because it is seen as their job to fetch water. Also, they are kept away from school for want of sanitation facilities when menstruating. Intestinal worms, spread by poor sanitation, also inhibit cognitive development, and illnesses due to poor hygiene and sanitation prevent children from attending school. The United Nations Children's Fund (UNICEF) (1999) found that improved school sanitation boosted girls' school attendance by 11 per cent in Bangladesh – a degree of impact that is likely to be as significant as major educational reform. A WaterAid Tanzania (2002) study found that school attendance rose by 12 per cent when safe water was made available fifteen minutes rather than one hour away from children's homes. Additionally, children queuing for inadequate communal toilets at school or near home miss out on classwork or homework. And, in some instances, teachers have been found to resist being posted to communities which lack adequate sanitation.

The WHO has estimated that the world could gain an additional 443 million school days every year, currently lost annually due to diarrhoeal disease, with universal access to safe water and sanitation (UNDP 2006). However, schools are the ideal institutions to spread habits of hygiene and use of sanitation; a school without sanitation can miss this opportunity for a generation.

FIGURE C5.3 **Effects of poor sanitation on school performance**



Source: Nokes et al. 1991.

Sanitation and hygiene are also important for achieving MDG 6 in relation to HIV/AIDS, malaria and other diseases. Access to clean water is an important requirement for antiretroviral and tuberculosis (TB) treatment adherence. And poor sanitation facilities, especially in many slum areas, cause flooded pit latrines and blocked drains, which can act as a breeding ground for malaria-transmitting mosquitoes (Stephens 1995).

There are also effects on maternal health and survival. The need to walk long distances to a convenient defecation site or to wait until nightfall is particularly onerous. Women's holding on until nightfall or walking long distances to secluded defecation sites can lead to urinary infections and present other health risks, particularly during pregnancy.

The official response

In spite of the recognition that clean water and environmental hygiene are crucial building blocks in the process of health improvement, the response of governments, donors and international agencies has been poor.

While the sanitation and water crisis present technological challenges, they are far from insurmountable. And while the cost of meeting reasonable targets is not insubstantial, the amounts required are small compared with European spending on luxuries such as perfumes or pet food. While

BOX C5.3 **What the poor say**

On the few occasions when poor people are actually asked to prioritise their needs, safe water comes in the top three. Research shows that people are fully aware of the cost of poor water supply, in terms of sickness, energy, time and money. However, research shows that people are often less aware and/or more constrained to speak about the importance of improved sanitation. This is because there is less appreciation of the link between sanitation/hygiene and health outcomes, and because social taboos associated with defecation and menstruation limit the extent to which information and education are effective.

In much the same way that stigma around HIV/AIDS has had to be challenged, stigma and taboos associated with defecation and menstruation need to be confronted. Experience shows that demand needs to be stimulated before more appropriate hygiene behaviours are adopted and there is significant uptake of latrines – this demand stimulation cannot take place where these taboos and stigmas remain.

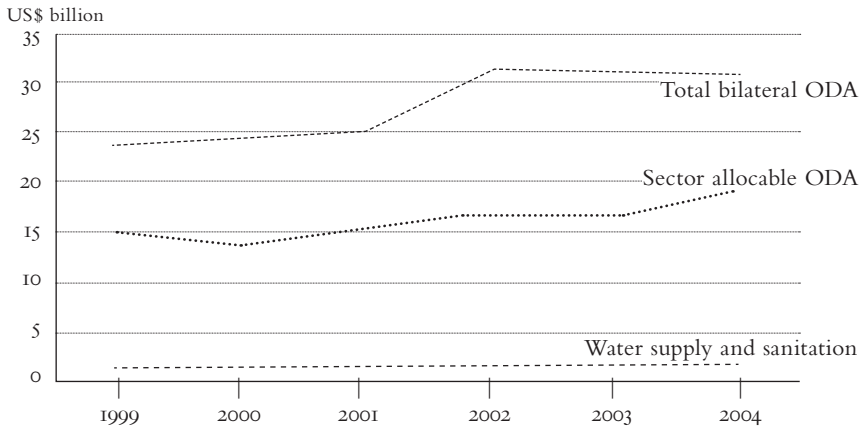
prolonged and extensive advocacy has helped to improve official recognition, it has not necessarily translated into greater budget allocation. The reason for this abysmal state of affairs is a lack of political will to confront the crisis.

Research into the status of water and/or sanitation in a selection of developing-country Poverty Reduction Strategies Papers (PRSPs) found a disturbing lack of alignment between what poor people themselves prioritise and what their governments do in response:

> While most PRSPs mention water, sanitation and water resource problems in the discursive parts of the strategies devoted to analysis of poverty issues, this was not and is not being reflected in the crucial section of the strategy where action plans and budget allocations are presented. This is an important issue because PRSPs now account for a significant proportion of ODA. (Foxwood and Green 2004)

The Cameroon PRSP reported that 60 per cent of people identified the lack of water as a cause of their poverty. In Malawi, 88 per cent of Village Development Committees put water in their top three priorities. In Zambia, water emerged as the top priority in all the poverty consultations in 1994, 1996 and 1999. But in each of these countries, the priority ascribed to water and sanitation by people was not reflected in the final national development plans.

FIGURE C5.4 **Aid to the water supply and sanitation sectors compared with overall aid, 1999–2004**



Source: WaterAid 2007. Data from DAC European countries.

And what of the donors? Figure C5.4 shows the rising level of overseas development assistance (ODA) from European countries, both as a total and as allocated to specific sectors. ODA for water and sanitation has remained largely static and a low percentage of the total – in the context of rising ODA, allocations to the water and sanitation sector have actually *declined* as a proportion.

Additionally, much of the aid that is directed to water and sanitation does not flow to where it is needed: of the top ten recipients of aid for water and sanitation, only three are low-income countries and only one of those is in sub-Saharan Africa, the region most off-track to meet the water and sanitation MDGs.

So, while people in developing countries see the lack of access to safe water as a critical problem, and while professionals recognise water and particularly sanitation as vital to public health and broader development efforts, national governments and donors tend to have a policy blind spot. Clearly there is paradox, an accountability crisis, at the heart of official development efforts.

In pushing for accelerated progress towards achieving internationally agreed upon development goals, it is necessary to guard against a situation where official efforts lead to a targeting of the easiest-to-reach populations – this would almost certainly result in the poorest and most vulnerable being marginalised even further.

> There is a case for achieving the MDG target by focusing our efforts on where conditions are most propitious and the greatest numbers of un-served are to be found. But this would ignore the moral dimension of those whose need is greatest. The challenge, therefore, is to meet the water and sanitation MDG targets with equity i.e. without leaving the poorest nations, regions or communities behind. (WaterAid 2006)

While the MDGs are a useful device to draw attention to the gravity and depth of poverty across the world, focusing on them could create two serious and unwanted problems:

- the 2015 MDG target becomes the end product and not a stepping stone on the way to universal and equitable access;
- if the MDG targets are not reached, the world will look away and forget about water and sanitation.

WaterAid's paper marking the halfway point in the MDG timescale notes:

> There is a genuine risk that the human development-related Millennium Development Goals will not be met if international donors continue to pursue single issue 'global causes' instead of building an aid system that will respond to the complex needs of poor communities. Progress in health and education is dependent on access to affordable sanitation and safe water. And yet both donors and developing-country governments have failed to recognise the interrelationship between health, education, water and sanitation. Global aid spending on health and education has nearly doubled since 1990 while the share allocated to water and sanitation has contracted. (WaterAid 2007)

Sanitation is particularly poorly served. The JMP found that spending on sanitation was as little as one-eighth that of spending on water, while the Global Water Partnership estimated in 2000 that only $1 billion was spent in developing countries on sanitation compared with $13 billion on water.

If donor funds for water and sanitation do reach low-income countries, they are often misdirected. Sanitation in particular is underprioritised locally and by international donors. Many countries do not have a co-ordinating institution responsible for sanitation and there is rarely a national budget dedicated to sanitation. For example, WaterAid (2006) examined the fourteen countries in which it works and only one was found to have coordinated planning and reporting systems for sanitation including a dedicated sanitation budget. Even though more than twice as many people lack sanitation as safe drinking water, spending on sanitation is only a fraction of the spending on water.

Often donor funds will be directed to projects that benefit the relatively well-off through favouring relatively high-cost-per-capita, high-technology

schemes. For example, the Melamchi project in Nepal was projected to cost $312 per capita and is to be directed at the middle-class parts of Kathmandu – the cost of a rural water point is typically $10 per capita in that country (WaterAid 2006).

In Tanzania, donors are mainly funding *piped* water supply schemes in rural areas which generally serve the better-off sections of the population and utilise technologies that are at least ten times more expensive than low-cost ones such as boreholes and wells. So for every additional household connected to such a piped water scheme, ten poorer households are denied access to a (cheaper) protected water source (de Waal 2003).

With sanitation, there is an emerging consensus that in order to accelerate progress communities need to be motivated to understand the benefits of improved sanitation *and* hygienic behaviours. It is accepted that the mere provision of latrines does not automatically result in the desired change in behaviour. Instead there is too often a waste of resources, when latrine provision is not accompanied by a concerted attempt to change attitudes and behaviour. In addition, the subsidy involved in supply-driven approaches is often captured by the relatively affluent, or latrines are built by the poor for the wrong reasons, and then not used properly, or at all.

Sanitation

The 2006 *Human Development Report* (HDR) identified six barriers to improving sanitation.

The first is the lack of acceptable and appropriate policy at a national level, even in some countries where good progress is being made with water supply. The key issue is the lack of institutional responsibility, alongside a lack of dedicated sanitation finance and capacity in municipalities.

The second barrier is that the poor themselves place a low premium on sanitation. The benefits of sanitation are dependent upon a range of factors, many of which are beyond the influence of households, including, for example, at a local level, where individuals in households with good hygiene and sanitation practices are victims of the insanitary practices of others, and at a wider level, where sewage is often partially treated (or not treated at all) prior to discharge into watercourses.

Third, people tend not to see the health benefits of sanitation. It is important to recognize that latrine uptake is dependent on issues of pride, dignity and safety. In a number of programmes approaches are now being used that successfully change understanding and behaviour, on the basis of an improved understanding of the health benefits.

The decision to install a sanitary facility, usually a latrine, is made at household level – probably by the (usually male) head of household. If that

household is poor, then the cost of even low-cost technology may be well beyond them. So the fourth barrier emerges: 'why should I build a house for shit', as a Zambian woman was quoted as asking in recent WaterAid research into drivers of sustainable sanitation, 'when I can't afford a roof on the house where I sleep?'

The fifth barrier is that in many locations there simply isn't the necessary supply of technology of the right sort and at the right price to allow local people to choose something to suit their cultural and financial requirements. People have been motivated to create their own low-cost designs in some locations, whereas in most others such levels of motivation have not been generated, and/or materials that allow low-cost designs are simply not available.

Finally, sanitation demand is low because it is women who bear most of the disease burden. So the lack of perceived demand for sanitation is often a function of the disempowerment of women. It is women's voices that are suppressed, not raised or not heard. The personal experience of women is disproportionately harsh in relation to sanitation, from school through to adult life, through exposure to indignity, shame, lack of privacy, illness and violence. In some communities taboos prevent women from using the same latrines as men or even from using them at all. Empowering women may therefore be one of the necessary conditions of accelerating progress.

The way forward

First, donors and national governments need to act on the evidence that is before them: that sanitation, water and hygiene promotion are not additions to development efforts; they underpin the successful achievement of all the MDGs.

Second, ODA and national planning systems need to be responsive to the domestic demands of the poor and to evidence of the most critical areas of deprivation.

As sanitation, water and hygiene form a critical part of development plans, it follows that sector-led development approaches are inappropriate. There is a pressing need for all sectors to coordinate policies.

The 2006 HDR identified the critical determinant to overcoming the water and sanitation crisis as a lack of political will. Good governance in both water and sanitation sectors is critical. The HDR highlighted the fundamental problem of weak, incapable and inadequately accountable governments. It is vital that water be seen as a public good that needs to be subject to some form of public and democratic control/regulation; also that

within the sector there has to be a mix of different kinds of actors involved in the provision and management of water resources and services.

Over 90 per cent of water supply is provided through public agencies. The key to equitable, affordable and efficient service delivery, and thereby accelerated pro-poor targeting of service delivery, in the vast majority of cases, lies in supporting public-sector reform. This is happening in most countries, but at far too slow a pace; it is held back too often, again, by a lack of political will.

The key to ensuring that governments, donors and service delivery agencies all play their role is increased accountability. Those acting in the water and sanitation sectors are generally not accountable to those they are supposed to serve. The results lead to woefully inadequate service levels; in absent services to the poor; in inequitable tariff differentials between the rich, connected and the poor, who get their water from unregulated vendors; and in weakly managed and inappropriate privatisations of utilities.

A way forward in all instances is to support local efforts to create institutionalised structures for local people to demand and maintain accountability, and for similar efforts at regional, national and even the global level. In other words, structures of accountability and platforms for dialogue between communities and those charged with serving them need to be created. Examples of such engagement come from across the globe: Red Vida, the Friends of the Right to Water, the Pan African Water Network, UNDP's Community Water Initiative, WaterAid's Citizens Action work and the Water Dialogues. There are many, many more.

In March 2007 the members of a coalition of Southern and Northern NGOs and individuals called End Water Poverty launched their campaign. At the time of writing, the coalition had more than half a million members. It is grounded in the belief that access to sanitation and safe water is a most basic human right and that, above all, it is the duty of governments to ensure that these rights are met with affordable, sustainable and equitable services.

Notes

1. See www.un.org/millenniumgoals/ for further details.
2. www.wssinfo.org/en/122_definitions.html.

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C6 Oil extraction and health in the Niger Delta

Brief overview of oil-exporting developing countries

Industrial nations tend to be large consumers of oil and oil products, but minor producers. Most OECD (Organization for Economic Cooperation and Development) nations depend on the Organization of Petroleum Exporting Countries (OPEC) for oil supplies (Karl 1997). The majority of oil reserves are located in the Middle East. The largest non-Middle Eastern oil-exporting countries include Venezuela, Nigeria, Indonesia, Libya, Algeria, Ecuador and Gabon. New technologies and rising prices have increased the volume of offshore oil extraction, resulting in areas such as the Gulf of Guinea off Africa emerging as a major global hydrocarbon supplier.

However, Bergesen and Haugland (2000) show that natural resource endowment has not been positively correlated with economic development and social progress. Paradoxically, countries rich in natural resources have performed poorly when compared to countries that have possessed fewer natural resources. Resource-rich countries are more likely to experience higher levels of conflict (Collier and Hoeffler 1999; Peluso and Watts 2001). A substantial body of research suggests that despite the considerable wealth tied to oil extraction, oil-exporting low-income countries suffer from economic deterioration and political turmoil (Hodges 2003; Karl 1997; Watts 2005).

Karl's in-depth analysis of 'petro-states', which covers a diverse range of countries and regime types, including Venezuela, Iran, Nigeria, Algeria and Indonesia, reveals that they all fall prey to troubling development paths despite their resource wealth (1997). Countries such as Angola, the DRC, Ecuador, Gabon, Iran, Iraq, Libya, Peru, and Trinidad and Tobago experience entrenched poverty, environmental degradation and stark health

disparities in the context of great resource wealth, leading economists to frame the term 'resource curse' (Sachs and Warner 1995; Gary and Karl 2003). What follows is a description of this 'resource curse' in Nigeria using a 'health lens'. It demonstrates the political nature of development and how a complex web of actors including transnational oil companies, military personnel and government officials conspire to keep millions of Nigerians unhealthy in spite of Nigeria's rich oilfields.

The 'new' gulf

Africa is currently experiencing a large oil boom, while the continent delivers approximately 10 per cent of world oil output and holds 9.3 per cent of known reserves (Zalik and Watts 2006). It has been conservatively estimated that sub-Saharan African governments will receive over $200 billion in oil revenues over the next decade (Gary and Karl 2003). Among the twelve major African oil-producing states, Nigeria combined with Algeria, Libya and Angola account for 85 per cent of the continent's output (Ghazvinian 2007). With a population approaching 140 million citizens, Nigeria is not only the most populous country in Africa, it is also a major supplier of petroleum to US and European markets. Human rights concerns and conflicts in other areas have led to the offshore region of the Gulf of Guinea in West Africa being identified as the *new Gulf*. The Gulf of Guinea region could receive $40 billion in investment by 2012 according to the petroleum industry, and the National Intelligence Council has stated that the significance of West Africa to US energy supplies may rise from 16 per cent to 25 per cent by 2015 (Zalik and Watts 2006).

Lubeck et al. draw our attention to the increased US military involvement in and around the Gulf of Guinea and 'greater American-Nigerian cooperation in managing security in the Gulf of Guinea' (2007: 10). During the next two decades, it is expected to become even more critical, along with other oil-producing countries in the West African 'Oil Triangle'. Civilian functions previously organised under the State Department's health, water and education agencies are now increasingly managed under the Trans-Sahara Counter Terrorism Initiative (TSCTI) and the US military (Lubeck et al. 2007). US officials affirm that the TSCTI strategy resembles 'ring fencing' in order to protect Nigeria, Africa's largest oil producer (Wallis 2007). The introduction to the 2005 Council on Foreign Relations document entitled 'More than Humanitarianism: A Strategic U.S. Approach Toward Africa', stated that 'By the end of the decade sub-Saharan Africa is likely to become as important as a source of U.S. energy imports as the Middle East' (Foster 2006). Zalik and Watts observe that this US report's focus is on 'Sub-Saharan

BOX C6.1 **Overview of the Niger Delta**

The Niger Delta incorporates nine states in the country: Akwa Ibom, Cross River, Rivers, Edo, Delta, Bayelsa, Imo, Abia and Ondo. The Delta and Rivers states are the dominant oil producers, producing approximately 75 per cent of Nigeria's petroleum (World Bank 1995).

The people of the Delta are predominantly fishermen and farmers who depend on the ecosystem for survival. The region is made up of four main ecological zones, harboring a high diversity of flora and fauna: coastal barrier islands, mangroves, fresh water swamp forests, and lowland forests. The Delta is one of the world's largest wetlands and has the largest mangrove forest in Africa.

Africa as a key source in US oil imports, the growing role of China in the African oil and gas industry and, of course, Africa as the new frontier in the fight against *terror* and revolutionary Islam' (Zalik and Watts 2006). However, Lubeck et al. insist that the only way to secure areas including the Delta region is to improve health, education and living standards, guarantee democratic elections, resolve resource conflicts, and include residents as stakeholders who will benefit from oil revenues (2007).

The Niger Delta makes Nigeria the largest oil producer in Africa and the eleventh largest producer of crude oil in the world. The Delta's oil has the potential to create wealth and opportunities for the Nigerian population. Instead, it has entrenched poverty and led to high levels of conflict, repression, corruption and environmental degradation (Watts 2004). Such an intense contradiction has been framed as a 'paradox of plenty' (Karl 1997).

> The problem, in a nutshell, is that for fifty years, foreign oil companies have conducted some of the world's most sophisticated exploration and production operations, using millions of dollars' worth of imported ultramodern equipment, against a backdrop of Stone Age squalor. They have extracted hundreds of millions of barrels of oil, which have sold on the international market for hundreds of billions of dollars, but the people of the Niger Delta have seen virtually none of the benefits. (Ghazvinian 2007)

The oil extraction industry

The search for crude oil began in 1908 when the German firm Nigerian Bitumen Corporation began exploration in Western Nigeria. However, it was not until 1956 and after investing over $30 million that Shell struck oil in commercial quantities.

IMAGE C6.1 **In the village of Kpean, Nigeria, an oil wellhead that had been leaking for weeks has caught fire**

The political economy of oil in Nigeria involves the complex interaction of the state, military and transnational oil companies (TNOCs). The federal government owns Nigeria's oil resources and exerts a statutory monopoly over all mineral exploitation. The state sets the rules for the operation of a series of joint ventures with TNOCs, which are granted territorial concessions. By the 1990s, Shell controlled over 60 per cent of Nigeria's known oil reserves and currently remains the biggest TNOC operator, controlling over 50 per cent of the oil wealth in Nigeria (Okanta and Douglas 2003). Other major players include Chevron, ExxonMobil and Nigeria Agip Oil Company.

The state security apparatuses, working with the private security forces of the companies, also play an important role. TNOCs have exploited oil resources for decades while several authoritarian military regimes have shielded them from litigation and liability for ensuing environmental damage and human rights violations. The systematic neglect underlying the Niger Delta problem has been described as a 'matrix of concentric circles of payoffs and rewards built on blackmail and violence' (Ibeanu 2002), involving actors from within and without the country.

According to one recent assessment of the situation,

> Ten years after the execution of human rights campaigner Ken Saro-Wiwa and eight of his colleagues by the Nigerian government, the issues of human rights and environmental devastation in the oil-producing Niger Delta remain unresolved. Despite the return to civilian rule in 1999 and pledges by oil companies to implement voluntary corporate responsibility standards, new reports by Environmental Rights Action and Amnesty International document only limited action to correct abuses and deliver benefits to the residents of the oil producing areas. (Africa Focus Bulletin 2005)

Nigeria currently produces over 2 billion gallons of oil a day, valued at approximately $40 billion a year (Watts 2007). Nigeria is the world's eighth largest exporter of crude oil (US EIA 2007; Falola and Genova 2005). Petrodollars account for 83 per cent of federal government revenue and about 40 per cent of GDP (Watts 2005). Some 85 per cent of the oil monies are accrued by 1 per cent of the population, with 70 per cent of wealth held in private hands abroad (Watts 2007), while 70 per cent of the people of the Niger Delta live below the poverty line and the majority of Nigeria's oil and gas is consumed in developed countries.

Nnimo Bassey, executive director of Environmental Rights Action/ Friends of the Earth Nigeria, has captured the twin interests of international capital and the domestic rentier economy:

> As the world continues to hunger for hydrocarbons, so the oil giants conveniently maintain a stranglehold on the Niger Delta in indifference to the cries of the people. As the IMF, World Bank and the Paris Club scheme on even more ingenious ways to skim off whatever funds trickle into our national treasury, so the fangs of rigs of the oil internationals sink defiantly into the heartlands and offshore of the oil coasts. (ERA/FoEN 2005)

Environmental and social consequences of oil extraction in the Delta

Nigeria ranks 158th out of 177 nations on the Human Development Index, and 91 per cent of Nigerians live on less than $2 a day (UNDP 2006; UNAIDS 2006). Over 3.5 million people live with HIV and average life expectancy is 45 years. Nigeria's health system is under-resourced, with government expenditure on health being only US$13 per capita (1.4 per cent of per capita gross national income).

In the Delta, various stages of oil exploration and extraction cause tremendous environmental and social damage. These include seismic surveys, drilling, road and pipeline construction, river dredging and gas flaring. Long-standing pollution also results from pipeline leaks and oil spills,

waste dumping and blowouts, all exacerbated by the neglect of proper maintenance and management.

Local communities eking out subsistence through fishing, cassava processing, palm oil processing, orchard tending and non-timber forest product gathering have experienced a devastating change in their lives. Deforestation, air and water pollution, desertification and loss of arable land have contributed to high rates of disease and physical, mental and social ill-health (US EIA 2007).

Oil spills, either from pipelines (which often cut directly through villages) or from blowouts at wellheads, are a major cause of pollution and ill health. There have been over 6,000 oil spills totalling over 4 million barrels between 1976 and 1996. Many pipeline leakages might have been avoided if the pipelines were buried below ground as in other countries and if ageing or damaged sections were repaired. Ageing and poorly maintained infrastructure also contributes to pipeline fires and explosions, which claim hundreds of lives annually. In 2006, over 400 people died in two pipeline explosions in Lagos, where leaking pipelines were left unremedied and crowds of impoverished residents desperately scooped up buckets of fuel, to sell or for personal use (Associated Press 2006).

In June 2001, an oil spill occurred in the rural town of Ogbodo. A study found that after a delay in clean-up efforts of at least three months, 15 km of soil along the Calabar river had been severely affected. High levels of oil and grease, laden with hydrocarbons, had damaged the soil, aquatic resources and the biodiversity of the area. Health impacts included respiratory and gastro-intestinal diseases, as well as mental distress (ERA/FoEN 2005).

All across the Delta, the water and soil have been poisoned with hydrocarbons, heavy metals and other substances (ERA/FoEN 2005). Thousands of toxin-containing waste pits are suspected of being linked to rising cancer rates, while waterborne illnesses such as cholera, typhoid and diarrhoeal diseases from unsafe drinking water present challenges for local communities. The power supply and stagnation of water have created breeding grounds for various waterborne diseases; and stagnant water in oil boreholes provides ideal habitats for disease-spreading mosquitoes.

All too often, oil spills are blamed on local sabotage. One spill in Rumueke that was claimed to be 'a result of sabotage' by Shell was later confirmed to have been caused by a leak in a pipeline. Numerous petitions from communities have been ignored (ERA/FOEN 2005; Amnesty International 2005).

The inactions of the TNOCs amount to a wilful neglect of the environment and local communities. In spite of the branding of oil companies

as 'green corporate citizens', this neglect continues (in the Delta and elsewhere). The clean-up methods initiated by oil firms remain unsatisfactory. A traditional scoop-and-burn method consists of scooping up oil onto water or land surfaces and then dumping it into open pits where it is burnt. Such fires set forests and rivers ablaze, and damage farmlands and communal property.

Another cause of ill health and environmental destruction is gas flaring. An estimated 2.5 billion cubic foot of gas is burnt on a daily basis (Osuoka and Roderick 2005). Soot, laden with harmful chemicals, drifts to the ground, adversely affecting soil fertility. Acid rain reduces the life of the corrugated iron sheets used for roofing from twenty to five years. Many of the 250 or so toxic chemicals in the fumes and soot of the gas flares and produced in the burning of oil spills have been linked to respiratory disease and cancer. Flares from nearby oil plants have caused an epidemic of bronchitis in adults as well as asthma and blurred vision in children (Piller et al. 2007). Medical staff report treating patients with many ailments and illnesses they believe are related to the products of the gas flares, including bronchial, chest, rheumatic and eye problems (Quist-Arcon 2007). Gas flares and their soot contain toxic by-products such as benzene, mercury and chromium, which contribute to lowering the immunity of community members, in particular children, making them more susceptible to diseases such as polio and measles (Piller et al. 2007).

Flaring also represents a significant economic loss – estimated at US$2.5 billion per annum (Osuoka and Roderick 2005). Cruelly, most Nigerian households suffer from chronic energy shortages while gas is burned virtually next door. Experts say that eliminating global flaring would curb more carbon dioxide emissions than all the projects currently registered under the Kyoto Protocol's Clean Development Mechanism (Quist-Arcon 2007). Although 2004 was originally set as the year by which non-operational gas flaring would end, the government has informed the UN that it has reset the date to 2010.

Negative health impacts have also occurred through social processes. Oil firms mainly employ expatriates, migrant contract workers (often from the host country) and only a minority of local workers from the communities. The first two categories usually receive better pay and benefits. Where foreign nationals and local labourers exist alongside one another, exclusionary dynamics similar to those under apartheid often exist, with luxurious secure compounds housing foreign oil workers (Watts 2005). High alcohol use and disrespectful behaviour towards the local community aggravate the situation further (Essential Action and Global Exchange 2000).

Oil workers and the high concentration of military and private security officers have created a market for commercial sex and account for the high incidence of violence, abuse and sexually transmitted infections including HIV/AIDS (Izugbara and Otutubikey 2005). Traditional gender roles and a lack of formal employment opportunities contribute to sex work serving as a survival strategy for women living near oil compounds and installations where many male field-based oil workers reside (Faleyimu et al. 2000).

Community and economic development efforts have been sorely lacking, while many development projects result in contracts being awarded or even bribes given without delivering any tangible benefits to the community (HRW 2007). Perceived inequalities in terms of the distribution of corporate benefits in various guises have resulted in violent responses (Cesarz et al. 2003).

Conflict

Not surprisingly, conflict and violence have been a defining feature of the Niger Delta. Protest by local communities has often resulted in brutal repression. The murder of Ken Saro-Wiwa and others, and the massacre of citizens in Odi in Bayelsa in 1999, in which the army killed 2,500 civilians, typifies the oppression in the region (Odey 2005). Amnesty International (2004) reports over 1,000 oil-related deaths in the Niger Delta in 2003 alone.

Internecine war and conflict between ethnic groups in the Delta pre-dated the discovery of oil. However, the nature of these conflicts has been altered by the oil economy. Notably, TNOCs have exacerbated violence in the area through land-use payments, environmental damage, price inflation and corruption.

Small arms and light weapons proliferation has accompanied the rise in the number of private security firms as well as community militia groups. The weapons have also been used for criminal purposes, for intimidation and violence during elections or campaigns, and during inter-communal disputes (Vines 2005). A HRW (2004) profile of violence in Rivers State featured the manipulation and militarisation of youths by local politicians and predatory oil firms.

Okanta and Watts carefully analyse how petrocapitalism as tied to an oil complex (an institutional configuration of firms, state apparatuses and oil communities) has contributed to territorial and indigenous rights disputes and exacerbated conflict related to perceptions of ethnic difference in Nigeria (Watts 2005, 2007; Okanta and Douglas 2003). Colonialism and the subsequent discovery of oil ruptured earlier forms of community, systems of ethnic identity, the functioning of local state governance, and

IMAGE C6.2 **Armed militants make a show of arms in support of their fallen comrades deep in the swamps of the Niger Delta**

territorial understandings. Watts (2007) posits that ethnic youth movements in contemporary Nigeria are a significant political development that has recently involved an upsurge in violence directed at oil firm employees – from kidnapping to armed militia attacks on security forces to vandalism aimed at disrupting oil operations. The restive youth problem results from large numbers of unemployed men who are 'incredibly alienated and angry at the consequences of this catastrophically failed oil development' and 'are either fighting among themselves or fighting local chiefs, local elites, for a cut of the oil money' (Bergman 2007).

Health care in the Delta

Repressive military rule, corruption and the theft of public funds have resulted in substandard public services, including a barely functioning public health-care system (Hargreaves 2002). Low-quality public health services, high user fees, shortages of drugs, equipment and personnel, combined with persistent high unemployment and poverty rates, contribute to a crisis of confidence and affordability in terms of health-care access and status in the Niger Delta (Chukwuani 2006).

Current donor-driven vertical disease-control initiatives have been criticised for setting targets driven by international agendas that adversely

IMAGE C6.3 **Oil pipelines and woman with company umbrella in Okrika**

affect the development of local health systems. The state of health care in Nigeria has been worsened by many Nigerian doctors emigrating to North America and Europe.

Nigeria is only one of ten countries where 50 per cent of the population is unvaccinated (Schimmer and Ihekweazu 2006). A burgeoning epidemic of HIV/AIDS leaves over 3.5 million infected and without access to the most basic care (UNAIDS 2006). Yellow fever remains a constant threat. Nigeria is listed eighth on the World Health Organization (WHO) list of countries with excessive tuberculosis mortality, and also has a major measles problem with an estimated 96,000 deaths per year. The Delta is a malaria endemic region. Until the WHO Roll Back Malaria campaign started in April 2000, there had been no defined malaria control programme. Epidemics are swift, frequent, and inevitably lead to high case-fatality rates, most often among children.

Médecins Sans Frontières (MSF) operates a surgical programme in Port Harcourt. Over 25 per cent of emergencies treated in May 2006 were for violence-related injuries (MSF 2006). In August 2007, Port Harcourt and surrounding Delta communities experienced weeks of violence, resulting in the deaths of dozens of people.

Most Nigerians have lost faith in government-run services, turning to various private providers including traditional healers, private pharmacists

and an array of charlatans who operate on a fee-for-service basis (Hargreaves 2002). A chronic shortage of essential drugs results in the purchase of substandard and counterfeit drugs from private pharmacists and street vendors with little or no regulation.

There is only one doctor for every 150,000 residents in the oil-plentiful Bayelsa, Rivers and Delta states (Zalik and Watts 2006). A 2007 HRW report on visits to primary health-care centres in five local government areas in the Delta found that all but a few lacked basic medicines, water and electricity. Some were housed in structures nearing the point of collapse, while many had been abandoned by demoralised staff (HRW 2007).

In November 2005, MSF had to end a malaria project in Bayelsa because local authorities were unwilling to improve health facilities and staffing. When funds are allocated to improve the provision of health care, as is the case with many development efforts in the Niger Delta, the money is often diverted to other purposes or channelled into 'projects' that are never executed.

Combating the resource curse

Will Nigeria's petrodollars help reduce poverty and improve health, or will conflict, oppression and environmental destruction be the experience of local communities?

Nigeria has taken small but important steps in the right direction. For the first time in the country's history, one civilian government has handed over power to another. Corruption remains rampant, but there is no shortage of Nigerians desperate to rid the country of its reputation.

The positive steps taken by Nigeria can be greatly supported by improved efforts from the international community to clean up the act of the TNOCs and the international banking system in facilitating corruption. Perhaps some of the millions of dollars that go missing or are spent on ineffective development programmes would be better spent on developing the capacity of civil society to monitor and campaign for a clean-up of the oil industry, or to support the legal action of communities claiming damages for the harm caused by the industry.

Transparency initiatives are currently inadequate. Publish What You Pay, which largely focuses on oil-producing companies, and the Extractive Industries Transparency Initiative (EITI) both fail to examine the components inside the cost base, which may include bribes, commissions and mispricing, missing oil or misstated oil volumes (Shaxson 2005).

In 2003 the UN Norms for Business were introduced to strengthen the 1948 Universal Declaration of Human Rights, which requires transnational

corporations and other business enterprises to respect responsibilities and norms contained in UN treaties and other international instruments (UN 2003). However, not all states are parties to the treaties and enforcement mechanisms are sorely lacking.

The Voluntary Principles on Security and Human Rights (VPs) are a voluntary code of conduct for the extractive industry. However, the Principles are unaccompanied by a monitoring or compliance mechanism and many oil firm representatives or community stakeholders are unaware of their existence (Zalik 2004). The voluntary nature of these codes allows for broad discrepancies in implementation (Seidman 2003). Zalik suggests that, ultimately, security for global capital serves as their primary function.

Other approaches include taking legal action. There has been a worldwide increase in the number of lawsuits against oil companies for human rights violations and environmental destruction (Gary and Karl 2003). The Center for Constitutional Rights is involved in a class action lawsuit charging Chevron/Texaco Corporation with human rights violations in the Niger Delta. Three other lawsuits involve Royal Dutch Petroleum Company and Shell Transport and Trading Company for human rights abuses against the Ogoni people in the Delta. Elsewhere, legal action is being pursued against Chevron Texaco in Ecuador, Unocal in Burma, ExxonMobil in Indonesia and Occidental in Colombia.

Amnesty International and other organisations have also encouraged shareholder campaigns (Amnesty International 2007). Most publicly traded companies have a 'one share, one vote' policy, which allows any shareholder to make proposals at annual meetings or to become a signatory to a petition. Using such opportunities can attract media attention, allow interaction with management and the board of directors, and shame companies into taking appropriate action. One successful campaign helped pressure copper and gold producer Freeport–McMoRan to address indigenous and environmental rights in Indonesia (Friends of the Earth 2000). Another example is the Expose Exxon Campaign aimed at countering ExxonMobil's efforts to block action on global warming, drill in the Arctic Refuge, and encourage the overconsumption of oil.

Needed are further resources and support for independent environmental impact assessments (EIA) of the Niger Delta; credible, independent judicial mechanisms to adjudicate compensation claims, ensuring that the credibility of environmental assessments are not influenced by funding from or association with government and energy firms; and efforts made towards the transparent distribution of compensation to communities. Moreover, company environmental impact assessment studies should be transparent and accessible to community groups, which should be consulted before

proceeding with infrastructure or development projects. Recent efforts to extend impact assessment processes to include social and health issues are positive steps forward, but capacity and regulatory related challenges must be addressed in relation to the government as well as the oil firms (Birley 2007).

Finally, also important are the development of and support for local grassroots leadership and civil society organisations using a range of strategies in their claims for economic, social and cultural rights. The importance of holding official conduct up to scrutiny and generating local public outrage, while drawing on surrogate publics worldwide, has been stressed.

Conclusion

The purpose of this chapter is to make the link between the process of oil extraction and a variety of health, social and environmental outcomes. As with other chapters in *Global Health Watch 2*, it illustrates the fundamentally political nature of health and thereby highlights the requirement for political therapies and solutions. Health organisations, whether based within the UN system or within civil society, have a difficult challenge in combining political and social action with traditional clinical or public health programmes. But to neglect the former is to neglect the root causes of ill-health of millions of people. The oil extractive sector is one arena within which there is a compelling case for greater public health action around the politics of ill-health. A set of concrete recommendations related to this chapter can be found on the GHW website.

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C7 Humanitarian aid

Much of humanitarian assistance is about health: preventing death and restoring well-being after a disaster. However, if humanitarian assistance is to live up to its name, the political context of emergency aid needs to be understood.

This chapter has two sections. The first considers the concepts and actors involved in humanitarian assistance, in particular the frequently underestimated role of local actors, and the role of the media. The inequalities that underlie disaster response is another theme of this section. It concludes with examples of the use of the rights-based approach to improve the quality of humanitarian assistance. The second section is about the commercialisation of humanitarian assistance and the co-option of humanitarian assistance for foreign policy objectives.

Concepts and actors

> One country's emergency may end up being better than a normal day in another. (Cheechi 2005)

Humanitarianism includes the belief that a human life has the same value wherever an individual is born: 'There should be the same attention to northern Uganda as to northern Iraq, the same attention to the Congo as there was to Kosovo.' However, when Jan Egeland, then UN Under-Secretary General for Humanitarian Affairs, said this in 2005, he continued, 'that is not the case today'. Which situations are called emergencies and the degree of humanitarian response they receive vary according to who is affected, where, and how they relate to global politics.

TABLE C7.1 **Rustaq earthquake in Afghanistan and Northridge earthquake in Los Angeles**

Indicator	Rustaq, February 1998	Northridge, January 1994
People dead	2,323	57 (33–73)
People injured	818	9,000 (8,000–12,000)
Houses destroyed	8,094	
Buildings and structures damaged		112,000 (8,000–12,000)
Livestock killed	6,715	
Production losses		$220,300,000
People dead	High number of deaths	Low number of deaths due to quality of construction, general infrastructure and disaster preparedness
People injured	Injuries very likely under-reported: untreated unless serious and only if facilities available	All injuries registered at treatment centres and for insurance purposes
Houses destroyed	Uninhabitable houses registered	
Buildings and structures damaged		All damaged structures recorded
Livestock killed	Not monetised	
Production losses		Monetised

Source: Bolin 1998; Longford 1998.

A disaster has been defined as 'a situation or event which overwhelms local capacity, necessitating a request to a national or international level for external assistance' (CRED 2008). The term 'complex humanitarian emergency' attempts to capture the political and social upheaval, the deterioration in all aspects of living conditions, and the indeterminate length of some emergencies.

The most common indicator used to define an 'acute emergency' is a doubling of the Crude Mortality Rate (CMR). If the baseline CMR is not known, a CMR greater than 1 death per 10,000 people per day is considered to be an emergency (Sphere Project 2004a). This means that a country with a high 'normal' CMR has a much higher threshold for a disaster to be considered an emergency than a country with a lower initial CMR. Poorer countries with a high baseline CMR therefore have greater

difficulty having their disasters defined as acute emergencies, whilst also tending to have fewer resources with which to respond.

The data in Table C7.1 are from the Rustaq earthquake in Afghanistan and the Northridge earthquake in Los Angeles in the United States. Both were caused by a similar level of shock. These figures – including what information is and is not available – illustrate the hugely unequal circumstances of the people behind the statistics of the two disasters.

Natural or man-made and implications for accountability

The Centre for Research on the Epidemiology of Disasters (CRED) lists the following as 'natural' disasters: drought, earthquake, epidemic, extreme temperature, flood, insect infestation, slides, volcano, wave/surge, wildfires and wind storm.

There is much debate about the word 'natural' with its implications of inevitability. Scientists concluded in 2006 that the rise in frequency of hurricanes cannot be explained by natural variability. Despite this, a reluctance to accept the underlying causes of natural disasters persists because of concerns about responsibility and liability. This could particularly be the case with extreme weather caused by climate change, as richer countries produce close to 80 per cent of carbon emissions, while Asia and Africa are home to 62 per cent of 'natural' disasters and 74 per cent of the resulting economic damage (Hoyois et al. 2007).

Is it or isn't it, and does it matter?

The definition of an emergency has several important implications:

- Apart from the International Committee of the Red Cross (ICRC) and certain United Nations agencies with particular mandates, humanitarian actors have to be invited to provide humanitarian assistance by a national government. This is normally done by a government declaring an emergency and signalling a need for international help.
- Once there is a declared emergency, donor funds can be disbursed more quickly than otherwise is the case.
- The declaration of an emergency can also spur organisations to deliver assistance without the consent of a country's government. This can be done for purely humanitarian purposes, but can also be done to justify external interference in a country for strategic and foreign policy purposes.

Who responds and who is seen to respond: the role of local actors

Most definitions of 'disaster' refer to the need for 'outside' assistance. In fact much disaster relief, particularly in the early stages, is provided locally.

After the Rustaq earthquake in north-east Afghanistan it was found that the response of survivors, neighbours, local government and the local military was swift and effective and that many presumed dead were actually with friends and relatives in neighbouring villages (Longford 1998). In Indonesia after the tsunami, 91 per cent of rescue services in the first 48 hours were provided by private individuals (Fritz Institute 2005). Despite this, there is a lack of investment in local and regional preparedness for responding to disasters. Instead, considerable resources are invested in, for example, search-and-rescue teams coming from countries outside the affected region.

The day after the Pakistan earthquake in October 2005, a reporter wrote: 'I've literally seen hundreds of people being pulled from the wreckage of Balakot' (BBC News 2005). Two days or so later, the 38-member UK Fire Search and Rescue Team arrived (with 37 personnel from other UK agencies) and were 'involved in 14 rescues' (FRS Online 2006). It has to be asked if some of the considerable resources involved in this would not have been better spent on improving local or regional disaster preparedness.

Perceptions and the media

Over the last twenty years there has been improvement in the way the media cover disasters: local actors are more frequently interviewed, and local responses receive more attention. However, coverage is still short-term, puts too much emphasis on the influence of international aid, and is sometimes politically biased. All too often in the Western media, a stereotypical and unbalanced picture of 'givers and receivers' is projected.

Hurricane Katrina was one of the most extensively analysed disasters with regard to its media coverage. Although this was a disaster that occurred in the rich North, it amply demonstrates the way in which disasters can be distorted along racial and political lines. One study found that 'minorities are disproportionately shown in a passive or "victim" role and are rarely shown in positions of expertise' (Vick and Perkins n.d.), Another noted that the media 'overestimated crime and panic (amongst the largely black population) and underestimated acts of kindness' (Tierny et al. 2006), while a third report described how misreporting could have 'delayed the arrival of relief teams and volunteers who feared for their safety' (Starks 2006).

Relief and development: difficulties with the divide

The short time frames within which donor funding for emergencies has to be spent have implications for making the transition from an 'emergency response' to the more long-term requirements for reconstruction and development.

For example, after the 2000 floods in Mozambique, donors were keen to support the rehabilitation of health centres: an essential activity, and one with a clearly demonstrable outcome within a reasonably short and predictable time frame. However, infrastructure such as roads had not yet been reconstructed and in some cases construction materials had to be flown in at great expense. With more flexibility it would have been possible to prioritise road-building while health services continued to be delivered out of temporary structures, and to carry out the rehabilitation of health facilities when materials could have been brought in by road. This would have been more cost-effective.

For health workers trying to ensure a continued service supply, the 'end' of an emergency may present particular challenges: 'If during the war you have access to health care and all of a sudden that disappears when peace comes, you start to wonder if only conflict is worthwhile' (Walter Gwenigale, Liberian minister of health, quoted in *Independent*, 24 May 2007).

The conflict in Liberia lasted fourteen years, ending in 2003, during which time an estimated 80 per cent of health care was supported by non-governmental organisations (NGOs). Yet there was no replacement or phasing-out strategy for the departing 'emergency' organisations, and by 2007 maternal mortality and life expectancy rates were still worse than during many emergencies. In general, those organisations which try to continue working in countries in the medium term after emergencies have problems accessing funds.

Prevention and disaster preparedness

Disaster prevention and preparedness should be an integral follow-on from any emergency. However, being a preventive measure that necessitates long-term commitment, it is nearly always insufficiently funded – with the tsunami being a welcome exception, as there have been considerable investments in preparing for future tsunamis.

Food security indicators can act as an early warning of potential disaster, and over the last twenty-five years have received more attention from the UN and the humanitarian community. However, more is needed. The opinion of senior nutritionists with regard to the Ethiopian emergency in 2003 was that 'the current crisis is partly caused by structural food insecurity and should have been countered by long-term development planning rather than emergency aid' (Institute for International Studies 2003).

The need for disaster preparedness has been urgently underlined by climate change. Taking this into account, some civil society organisations are promoting disaster risk reduction methods which integrate continual preparation for disasters into 'regular' development programmes.

IMAGE C7.1 **Woman in India carrying water in area where citizens were relocated following a natural disaster**

Addressing vulnerabilities through long-term prevention and preparedness programmes involves a degree of wealth redistribution which may challenge the status quo, as it did in El Salvador following Hurricane Mitch (Wisner 2001). This needs to be anticipated and absorbed into the strategy of disaster preparedness programmes.

Attempts to achieve minimum standards: the rights-based approach

During the first half of the 1990s there was increasing discussion about the right to receive humanitarian assistance of a certain quality. One of the outcomes was the Sphere Project for Minimum Standards in Humanitarian Assistance, which through a consultative process produced standards and associated indicators in four technical areas: water, sanitation and hygiene promotion; food security, nutrition and food aid; shelter settlements and non-food items; and health services (Sphere Project 2004b).

While a few organisations considered the standards potentially restrictive, many adopted them and now conduct voluntary self-monitoring of their implementation. Another aim of the Sphere Project was to shift underlying attitudes away from 'charity' towards a duty to provide assistance. Despite

these efforts, those receiving assistance are in many instances still treated as a less powerful 'partner'.

While the Sphere Project concentrates on minimum standards for interventions, humanitarian assistance can also be used as an integral part of directly empowering civil society to demand their rights. One year after the Gujarat earthquake in 2001 local organisations, supported by the international NGO ActionAid, protested that many people had not received the compensation they were owed from the district government. These organisations not only provided humanitarian assistance but actively engaged with disadvantaged local groups to raise awareness of their rights and break down communal barriers.

Geographical and political priorities: size and quality of response

Most humanitarian organisations make great efforts to respond according to need in disasters: this is the basis for the core principle of impartiality. Individual programmes often achieve this within a contained population, but when the global picture is considered the humanitarian response is far from impartial.

In 1998 Julius Nyerere pointed out that a country was more likely to be a priority for humanitarian assistance if it had the potential to create a refugee problem for donor countries. For example, while $166 per capita was spent on humanitarian assistance in the former republic of Yugoslavia, only $2 per capita was spent in Eritrea (WHO 2008).

The war in Iraq demonstrates the way in which humanitarian assistance is distorted. As of July 2007, approximately 4 million Iraqis – either refugees or internally displaced persons – were receiving inadequate general rations and poor shelter. The insufficient response in 2007 reflects the nature of changing political priorities. In 2003, the planned swift and generous response would potentially have won local hearts and minds; in 2007 the refugees and displaced only serve as a reminder of how badly things have gone wrong for the US and its allies.

Changing political priorities can also mean that the pledges made in the immediate aftermath of an emergency are not delivered. Of the $9 billion pledged to Central America following Hurricane Mitch in 1998, only 50 per cent had been delivered by the end of 2004. A year after the Bam earthquake in Iran in 2004, only 12 per cent of the promised $1 billion had been delivered (Mansilla 2005).

On the other hand, donations from the public and non-governmental bodies are often underestimated as they may not be captured in standard calculations. Humanitarian resources received from the public globally almost

certainly exceed those from official sources. Funds from diaspora groups, Islamic agencies and Islamic government-to-government funding are thought to be particularly prone to underestimation, as is the investment in time and resources involved in the response of the disaster survivors themselves.

Despite the considerable effort made by those working in humanitarian assistance to keep their work impartial, the type and degree of response are still influenced by the foreign policy objectives and national interests of the contributing nations. One clear illustration of this is the recent history of food aid.

Food aid: for whose benefit?

The United States has historically provided large amounts of food aid for humanitarian programmes. As discussed in Chapter D2.1, the US has used food aid to subsidise its domestic agricultural industry.

For those at the receiving end, food aid can result in unfamiliar food of dubious quality being supplied late, and sometimes with damaging effects on fragile, local markets. Food aid provided in Ethiopia in 2002, for example, flooded the market and undermined local farmers still further.

Attempts to provide genetically modified (GM) crops in recent years (at the same time that some European countries were refusing GM products) is another illustration of inappropriate food aid. One concern of governments receiving the food aid was that farmers would save some of the GM crops for the next planting season. But as GM seed does not propagate itself, this could mean that no seed would be produced for the next harvest and that national control of the seed stock would be severely damaged. In August 2002, when President Mwanawasa of Zambia refused to accept imports of GM maize as food aid, it led to claims that he was 'refusing to feed GM grain to the starving'. The Zambian government cited their concerns about future seed stocks, and offered to accept the food if it was milled, eliminating the possibility of GM crop planting. However, the US government refused to donate cash for milling or local purchase, unlike the UK government, which supported the purchase of local and regional grain.

Highjacking humanitarianism – intervention and invasion

Humanitarian assistance has always often been used to further the foreign policy objectives or national interests of donor countries. In the case of the UN agencies, funding reflects the priorities of donor member states.

Humanitarian space has been defined as 'a space of freedom in which we are free to evaluate needs, free to monitor the distribution and use of relief goods, and free to have a dialogue with the people' (Wagner 2005). This space has been challenged in recent years. Security concerns in Iraq

and Afghanistan were high on the agenda of the 160 NGOs that met at a meeting in Washington DC in May 2004. At the same time NGO staff were avoiding using agency T-shirts and painting over logos on their vehicles to decrease the risk to staff through perceived association with the countries of military actors in the conflicts. There was 'a lot of concern in the humanitarian community about whether the definitions of humanitarianism are changing', potentially making aggressive acts more acceptable to the public, and easier to justify to an electorate or political opposition.

The bombing of Kosovo saw the first use of the term 'humanitarian bombing'. In fact the bombing, which was justified on the grounds of humanitarianism, was also the cause of a humanitarian disaster. Events in Afghanistan and Iraq have also shown how wars undertaken supposedly to liberate people from tyrannies have been conducted in ways that have decreased the safety, security, health and well-being of the population.

However, a study carried out in 2007 indicates that for the people of Iraq the underlying principles of humanitarianism had not changed: 'Although humanitarian principles are in general warmly embraced in Iraq, we also heard with consistency that humanitarian action that falls short of the ideal is recognized as such and is prone to rejection' (Hansen 2007). Association with the invading military forces, and a blurring of military 'hearts and minds' activities and humanitarian action, have diminished humanitarian space. This reduces access to assistance, and puts both humanitarian actors and those they are trying to help at greater risk. According to Mark Malloch-Brown, former UN Deputy Secretary-General: 'I have watched the work I used to do get steadily more dangerous as it is seen as serving Western interests rather than universal values.'

Humanitarian space reflects an understanding by all sides in a conflict of the right of those affected to receive humanitarian aid. It implies that armed forces will take the necessary steps to allow humanitarian activities to take place. It needs an understanding of the risks for civilians, including those providing assistance, of any association with military actors.

In the north and east of Sri Lanka, assistance was able to be provided during a very volatile and violent period (1987–90) by establishing clear and agreed travelling procedures between humanitarian actors, the Indian Peace Keeping Force (IPKF), the Sri Lankan army and airforce, and the Liberation Tigers of Tamil Ealam.

The influence of 'new' actors: the military and private business

Over the last fifteen years the military have played an increased role in humanitarian assistance, with straplines such as 'a force for good in the world' and recruitment that emphasises the 'humanitarian' aspects of the

job. The Defence Medical Corps – or equivalent – of most armies traditionally had the responsibility of ensuring the health of the armed forces. While there have always been instances when the military has treated civilians, this has previously been done in an ad hoc manner. Their present role implies a more formalised function in treating civilians.

Actions related to civilian health have often been carried out by the military in the name of winning the 'hearts and minds' of the local population; it 'gives the military commander a 'carrot' to complement his 'stick' in gaining compliance'. 'Hearts and minds' activities have more recently been called Quick Impact Projects (QIPs). If it can be claimed that armed forces are routinely supplying humanitarian assistance, then claims that military interventions are 'humanitarian' can be strengthened. Given their need to win hearts and minds in the short term, the medium- to longer-term implications of these projects are likely to be ignored.

For non-military humanitarian actors, an expanded role for the military can also mean a loss of perceived impartiality, with consequences for the security of humanitarian workers as well as those they try to assist.

Humanitarian aid has become increasingly project-oriented, with an emphasis on demonstrable impact, in all but the very acute stage of emergencies. This can restrict responsiveness to changing local contexts, impose impractical time frames and limit flexible strategic planning. While impact assessment is important, it can also lead to perverse incentives if inappropriately applied, and to humanitarian actors doing what they will be able to measure, rather than doing what is more appropriate and sustainable.

In 1996, WorldAid 96, a major global expo and conference on emergency relief, was held in Switzerland. It attracted many NGOs, but also 274 companies. Products from landmine flailers to water purifiers were on display. Discussion at the event showed considerable confusion as to its purpose: was it to market the items that humanitarian agencies could purchase, or was it suggesting that private companies could better provide humanitarian services? The private delivery of humanitarian assistance raises concerns about profit maximisation and the lack of market regulation in the context of vulnerable 'consumers'.

It has been claimed that private companies are more efficient than the voluntary sector, although the evidence does not support this. The United States Agency for International Development (USAID) awarded Abt Associates – a Massachusetts-based consulting firm – a contract for US$43 million to improve the health sector and distribute medical supplies in Iraq. According to a USAID audit, 'medical kits intended for 600 clinics contained damaged or useless equipment', and USAID eventually cancelled the contract.

BOX C7.1 **The Humanitarian Response Index**[1]

The Humanitarian Response Index (HRI) is a recently developed tool for measuring the performance of donors in relation to the widely accepted Principles and Good Practice of Humanitarian Donorship.

In light of the poor practices described in this chapter, it is hoped that the Index will catalyse more equitable and ethical practices by the donor community, as well as improve the efficiency and quality of humanitarian action.

The tool uses 25 quantitative and 32 qualitative indicators to measure donor performance in terms of five pillars of humanitarian assistance: responding to humanitarian needs, integrating relief and development, working with humanitarian partners, implementing international guiding principles, and promoting learning and accountability.

According to the Index, which was published for the first time in 2007, Sweden, Norway, Denmark and Netherlands were the best performers among the 23 donors that were assessed. Portugal, Italy and Greece fared the worst. The US is 16th on the list of 23. Canada, whose humanitarian assistance is discussed in Chapter D2.2, is in 7th place. But Cuba, which mounted a humanitarian response to the earthquake in Pakistan, is not included in the HRI.

The 2004 Indian Ocean tsunami brought about increased involvement of private companies in humanitarian relief for no immediate profit motive, for example through the donation of goods. However, the motivation behind this engagement appears to be driven, at least in part, by a desire to build a positive brand and to 'insure' against potential future political crises, and by the chance to gather business intelligence (Binder and Witte 2007).

These are clearly different from humanitarian motivations, as represented by the humanitarian charter of the Sphere Project or the code of conduct for the International Red Cross and Red Crescent Movement and NGOs in disaster relief. Nevertheless the international human resource director of one large humanitarian NGO has been reported as saying that they were 'openly inviting applicants from the business world and the public sector because their skills are transferable'.

The role of civil society

Civil society has a vital role to play in preserving humanitarian space, whether it is receiving assistance, providing assistance or monitoring events. What should be done will depend on the particular context. However, some key issues can be highlighted:

- ensuring that local actors are recognised and supported during emergencies, particularly in relation to defining needs and priorities and developing strategies;
- advocating for changes to reduce the inequalities that underpin vulnerability to disasters;
- supporting the further use of the Sphere Project's minimum standards for the implementation of humanitarian interventions;
- using the Humanitarian Response Index to campaign for better donor practice (see Box C7.1);
- campaigning for international humanitarian law to be respected in all disaster situations.

Note

1. For more information on the HRI, see www.daraint.org/web_en/hri.html.

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C8 **Education**

At the turn of the millennium, leaders of rich and poor countries together committed themselves to a set of Education For All (EFA) goals aimed at guaranteeing every child and adult the chance to transform their lives through education. Two of the EFA targets were incorporated into the Millennium Development Goals (MDGs): completion of primary schooling for all children, and elimination of gender inequality at all levels of education.

Within two years, the Education for All – Fast Track Initiative (FTI) was launched with the aim of ensuring that good education plans were backed by 'more, better, faster' aid. Since then, the numbers of children enrolling in school has been rising at an unprecedented rate: 37 million more children were brought into the schooling system between 2000 and 2005, and the gender gap is slowly closing (FTI Secretariat 2006).

Most progress is being made where the challenges are greatest – in sub-Saharan Africa (SSA) and West and South Asia. But while this progress is encouraging, challenges endure. In SSA, only 63 per cent of children finish primary school; pupil:teacher ratios have skyrocketed, reaching over 65:1 in countries such as Mozambique, Malawi and Burundi (UNESCO 2006). This chapter lays out an agenda for shared concern and joint action for the education and health constituencies.[1]

Mutual benefits, common agendas

There are a number of commonalities in the struggles to secure rights to education and health. The following section examines some key issues facing the movements championing these rights. It calls for an organised

IMAGE C8.1 **Schoolgirl in Mozambique**

and politicised response by civil society actors to promote and support citizens' claim-making.

Public goods need state action

Historical evidence shows that large-scale gains in health and education have been made when the state takes responsibility for providing essential services (PSI 2005). No rich country achieved universal schooling without an organised programme of action led by government, backed with public resources, which was designed to reach the entire population. In various breakthrough periods Botswana, Zimbabwe, Mauritius, Sri Lanka, South Korea, Malaysia, Barbados, Costa Rica, Cuba and Kerala all achieved primary school enrolments close to 100 per cent for girls and boys, decades before other developing countries. Significantly, child deaths were simultaneously reduced (Mehrotra and Jolly 1997).

As attention turns to regions and countries where improvements in education and health remain elusive, international debates have focused increasingly on the role of the non-state sector to resolve the crisis in provision. There are calls from some quarters – especially the World Economic Forum and the World Bank – to further liberalise the sectors and create 'global industries' in education and health. A growing body of research notes that private and other non-state providers have mushroomed in response to state failure, and argues that this private provision is more 'pro-poor' due to the presumed greater accountability and responsiveness

IMAGE C8.2 **Students in Sri Lanka**

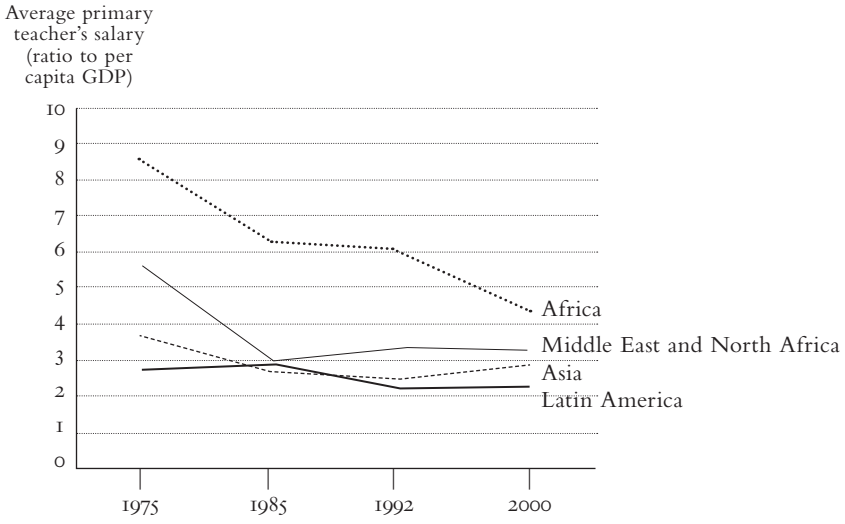
of providers to client demand (Tooley 2001). The proliferation of private and community-run schools in Zambia and Pakistan is cited as a product of the poor 'voting with their feet', seeking better and more accessible services because the state has let them down.

Donor governments and international institutions have promulgated multi-stakeholder provision as the magic bullet that will enable countries to achieve the MDGs. The 2004 *World Development Report* proposed market and private-sector solutions, and privatisation remains a condition of multilateral lending to the poorest countries.

The reality is that the increased presence of private actors is an ideologically driven trend that serves the material interests of some better than others. Recent studies reveal that non-state solutions are not a universal panacea, do not work, and are not what people want (Oxfam 2006). Privately provided services are often too expensive for poor people and the profit motive skews provision away from the poorest and most disadvantaged. The so-called promotion of 'community participation' in education has been top-down, with limited consultation with communities about the ways in which they may (or may not) wish to participate (Rose 2003). The outcome has been to shift state responsibility for the provision of services on to communities.

The charging of fees – in both the private and public spheres – is still alarmingly prevalent. In education, although an increasing number of countries are abolishing tuition fees, with positive effects on enrolment

FIGURE C8.1 **The value of teachers' salaries has fallen dramatically over the last twenty-five years**



Source: UNESCO 2007.

rates, fees are expanding for other costs. One study (Tomasevski 2006) identified seventeen different types of fees facing a child in school and found that charges were present in over ninety countries worldwide. Many governments which pronounce education to be 'free' charge for textbooks, uniforms, transport, school equipment, heating or building maintenance. The report cites numerous countries where poor people have to pay unacceptable proportions of their incomes to educate their children, and where children are forced to work to pay the cost of their primary education.

User fees are among the most socially retrogressive policy measures that can be implemented by governments, and a major cause of inequitable access. They force families into debt; into making painful choices between boys or girls going to school; or into seeing their children go hungry to pay for medical care for another family member. In the more extreme cases, poor people are excluded altogether. Women and girls bear the brunt of the impact. In contrast, when Uganda made schooling free for up to four children in every household, primary school enrolments nearly doubled between 1990 and 2000 and gender gaps in education were virtually eliminated (Oxfam 2006).

Workers are the cornerstone

One factor crucially determines a country's ability to make speedy and meaningful progress towards the goal of education for all: a supply of professionally trained, well-motivated workers. Yet a combination of low wages and working conditions is leading to a crisis of recruitment, retention and motivation.

UNESCO Institute for Statistics (2006) estimates that 18 million more teachers will be needed to meet the EFA goals by 2015. The countries with the greatest need are in sub-Saharan Africa, South and West Asia, and the North African and Arab states.

One reason for the crisis is that countries cannot afford to pay adequate salaries and benefits. As Figure C8.1 shows, real wages for primary teachers have declined in all regions over the last thirty years, although some have seen a modest recovery recently. In Zambia, it has been calculated that the monthly cost of basic needs for a family of six was 1.4 million kwacha (US$410), more than twice the average teacher's salary of 660,000 kwacha ($191).

The situation is exacerbated by the impact of HIV/AIDS on teacher mortality rates (UNESCO 2006). Experts estimated between 1,100 and 3,000 teacher deaths as a result of AIDS in each of Kenya, Tanzania, Zambia and Mozambique in 2005.

Another cause of shortages is out-migration of teachers to countries such as the US, Canada, the UK and France. In some cases, rich countries have been actively recruiting teachers from countries such as Guyana. This has led directly to the adoption by ministers of education of the Commonwealth Teacher Recruitment Protocol, a voluntary code which complements the 2003 Commonwealth Code of Practice for the International Recruitment of Health Workers.

Paying up: rich and poor country governments must meet their commitments

A fee-free, public system staffed by motivated professionals implies a substantial cost for governments. Following years of cuts and constraints to public spending on education, there are some modestly encouraging trends. The most recent EFA Global Monitoring Report (UNESCO 2007) showed that about two-thirds of countries raised public spending on education as a share of gross national product between 1999 and 2004. The share of education in total government expenditure increased in about three-quarters of countries with data. Through the Education for All – Fast Track Initiative, some thirty-two low-income countries have met the stringent tests of political commitment and sound planning to become eligible for better and faster aid.

BOX C8.1 **Migration of teachers in Guyana**

'They come back every year, and every time they come, we lose dozens of teachers', complains Avril Crawford, President of the Guyana Teachers' Union (GTU). 'They' are the British recruiters on their annual visit to Guyana to meet teachers who replied to their advertisements for applicants to teach in Britain. 'Recruitment agencies from the United States and the Bahamas are now flocking in, too. Even Botswana looks for teachers here', exclaims Avril Crawford. The Bahamas and Bermuda are the Caribbean countries that headhunt most from their neighbours. Guyana is one of the few Latin American English-speaking countries. Its teachers are highly trained, but working conditions are poor, making them more open to attractive offers from elsewhere. The highest monthly salary that a Guyanese teacher could earn is €400, which even a novice teacher in the Bahamas would spurn.

Source: Education International 2005.

However, some countries with large education challenges still do not spend anything like the sums needed to guarantee education for all citizens. Pakistan, for example, spends less than 3 per cent of its gross national product (GNP) on education. In these contexts, sustained public pressure is needed to call governments to account for their commitments.

However, the burden should not be borne by poor countries alone. Financing basic education became a mutual responsibility of poor and rich nations when 186 leaders signed a 'global compact' on education which noted that the 'international community acknowledges that many countries currently lack the resources to achieve education for all within an acceptable timeframe … We affirm that no country seriously committed to education for all with be thwarted in their achievement of his goal by a lack of resources.'

Regrettably, commitments have not been matched by action at the scale required. The total external financing requirement for achieving the EFA goals is estimated to be $16 billion per year (DFID 2005). Aid to basic education rose steadily between 2000 and 2004, when it reached a high of $4.4 billion – still far short of the total needed. However, shockingly, it actually fell in 2005 (the latest year for which data were available).

The Global Campaign for Education (GCE) has measured each donor country's contribution to education financing and has concluded that the G7 countries are in large part responsible for the scarcity of funds. If they

BOX C8.2 **Promises to keep: how the Nine is Mine campaign is holding the Indian government accountable**

Launched by more than 4,500 children in Delhi, India, in October 2006, the 'Nine is Mine' campaign is a participatory children's advocacy initiative calling for 9 per cent of gross domestic product (GDP) to be committed to health and education. This initiative of children, schools and civil society organisations across fifteen states of India is being led by Wada Na Todo Abhiyan (WNTA) and aims to put children at the centre of an advocacy effort.

January 2007: 20 children lead the Nine is Mine delegation to meet the prime minister of India at his residence. The meeting culminated with the presentation of a giant Nine is Mine postcard representing over 200,000 signatures and a giant white band representing the Global Call to Action Against Poverty.

gave their 'fair share' contribution, this would provide an additional $5 billion each year, enabling some 60 million more children to go to school. The amount is the equivalent of five weeks' spending on the EU Common Agricultural Policy or the cost of four US Stealth bombers (GCE 2007).

Furthermore, the aid that is provided is not targeted to the poorest countries or to those with the greatest challenges. Less than 20 per cent of aid to education is available for a list of countries defined as conflict-affected and fragile (Save the Children 2007). Far too little aid is actually spent on the core running costs of education – books, teacher salaries and classrooms. Donors persist in ensuring that aid benefits the originating countries through tying and technical cooperation. Oxfam found that in 2004, less than 8 per cent of aid was directed into government plans and budgets (Oxfam 2007).

These problems are compounded by the International Monetary Fund (IMF). By its own account, targets on low inflation and fiscal deficit have led to the adoption of public-sector wage bill ceilings in at least seventeen countries in Asia, Central America and sub-Saharan Africa (Fedelino et al. 2006). A study of three countries by ActionAid International (2005) found that these caps had devastating impacts on the availability and quality of education. Mozambique, for example, has over half a million children out of school and pupil:teacher ratios of 74:1, yet recent attempts to boost the teaching staff by 12,000 (only 10 per cent of the total needed to provide universal schooling by 2015) were cut back due to the wage bill ceiling. The Center For Global Development (2007) highlighted similar issues in the

health sector and concluded that IMF wage ceilings 'sit uneasily with the designation of priority poverty-reducing expenditures' and recommended that they be dropped in all but a few extreme circumstances.

The trials of conflict and fragility: where the state is weakest

War and conflict cause damage to every aspect of society. Education structures are often targeted during civil unrest. In Liberia, 80 per cent of schools were destroyed during the civil war. As a result, conflict-affected countries have some of the highest out-of-school populations. Save the Children (2006) estimates 43 million children to be out of school in thirty conflict-affected countries. In DRC alone 5 million primary school children are out of school. In Darfur, only one in every three children is in primary school.

The longer a conflict continues, the harder it is to fund and administer education systems. Holding national exams, paying teachers, and getting materials to school become increasingly difficult. Yet the benefit of school and education is what can bring the hope for peace and development. Schools not only bring life-saving skills, but offer a place of routine and play; somewhere to escape violence, and to reunite friends and families during times of trauma.

Despite the acute needs of conflict-affected countries, they receive up to 50 per cent less education aid than other low-income countries. Sierra Leone recently developed a new education plan to realise the universal primary education goal by 2015. Over a hundred schools have been built, over a million textbooks have been purchased, and teachers and school management committees are being trained. Liberia is in a similar situation, but both countries are awaiting the full amount of financing needed to enable them to put their education plans fully into place.

Stemming the tide? Education and HIV/AIDS

The misconceptions and stigma attached to HIV/AIDS often penetrate school walls. Orphaned children may be discriminated against by their classmates and teachers. HIV-positive teachers risk facing discrimination if they disclose their status. Sexual violence within schools, between classmates or between teachers and pupils, puts students at risk of HIV infection. Many schools fail to provide adequate HIV/AIDS training to teachers, or an age-appropriate HIV/AIDS curriculum, because of moral arguments about sex education. The restriction of USAID funding to 'abstinence until marriage' programmes has left many young people without access to condoms, and lacking information about safer sex (HRW 2005).

Quality education, preferably gender-equitable in nature, is, however, increasingly recognised as a 'social vaccine' against HIV and AIDS (Hargreaves

and Boler 2006). Research has shown that educating girls is one of the best ways to tackle the HIV epidemic. However, education systems have varied greatly in their response. In Asia and Latin America, HIV/AIDS has largely been regarded as a responsibility of the department of health. In Africa, ministries of education have set up HIV/AIDS units but these are frequently under-resourced. Their lack of engagement with civil society, teachers and ministries of health has led to HIV/AIDS curricula being ignored, unvalued or misunderstood by teachers (Boler and Jellema 2005).

But where schools are safe and non-discriminatory places of learning, where teachers are trained to impart life skills and provide accurate knowledge, where there is sensitivity to the needs of orphans and vulnerable children, and when governments protect HIV-positive teachers and provide them with access to treatment, education can be the most effective of all public health interventions responding to the HIV/AIDS epidemic.

Gender inequality

In situations where governments face multiple challenges in the provision of education and health, girls and women nearly always fare the worst. Moreover, when girls get to schools, they are often not equipped to benefit them. A lack of toilets, for example, poses a particular problem for adolescent girls during menstruation. Research (Migwi 2007) in Kenya found that girls often missed school one week in every month due to their menstrual cycle.

However, quality and gender-equitable education is crucial for tackling the inequalities that women and girls face. It enables them to take care of their own reproductive health, protect themselves from HIV, and raise healthier children, who are then also more likely to go to school. It further assists them to ensure their own economic security and that of their community and society (ActionAid 2006).

For these reasons the rights of women and girls have been prioritised in international commitments. Of all the MDGs, only one was set with an early date of 2005 – getting an equal number of girls and boys into primary school. The goal, however, was missed by ninety countries, and, shockingly, went unmentioned at the UN+5 summit. Urgent steps must now be taken to ensure girls get to school, and to ensure they receive the quality of education needed to empower them.

Recommendations

This chapter suggests a shared change agenda for the education and health communities. Joint action will help achieve mutually reinforcing goals.

Campaign when it counts

Health and education campaigners should unite around key political milestones such as election campaigns or budget cycles. During these times, there are real opportunities to engage the public's interest and influence the political agenda. We may pressurise political parties or individuals competing for public office to include commitments to eliminate user fees and increase public spending on health and education. Pre-budget planning is a critical time to push for improved allocations to health and education, with special attention on the rights of marginalised and excluded populations. Monitoring the implementation of policy and budget commitments at the local level also needs to be strengthened.

Keep the focus on rights

Campaigners should put the rights of citizens at the centre of their efforts. This may include pursuing advocacy through the justice system, calling for constitutional provisions and testing the state's commitment to them in the courts if necessary.

Put workers in the forefront of demands, and the campaigning movement

Building a professional and accountable public-sector workforce should be a priority demand for both the health and education sectors. Forging alliances between the trade-union movement and grassroots campaigners can bring benefits.

Think local, national and global

Many of the pressures facing the health and education movements are influenced by global agendas and events. The quantity and quality of aid, the poaching of workers, macroeconomic policy conditions are all examples of issues that have national effects but are driven by global institutions. Conversely, the international arena offers opportunities to elicit new commitments and hold governments and agencies to account, especially in the media. Campaigning organisations should continue to build worldwide popular movements calling for accountability from national governments and international institutions.

Join hands and reach out

This chapter makes a clear case for greater collaboration between education and health activists. The links identified between gender, HIV and education also point to a need to foster alliances with the international women's movement and HIV campaigners. Transparency advocates are also increasingly aware that they need to make links to communities and

activists campaigning for better public service provision. In order to avoid competing for political space and scarce resources, it is essential to be open to new forms of cooperation and joint working.

Note

1. Evidence of the many direct and indirect links to health was presented in *Global Health Watch 1* and is available on the GHW website. A longer version of this chapter is also available on the website.

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