

urban settings; rising temperatures and the 'heat island effect' can raise temperatures by 5–12°C.<sup>72</sup> In addition, poor air quality affects respiratory disease and children's health. Indeed, a 1°C rise in temperature could increase global deaths from air pollution by over 20,000 a year. Finally, one-third of all children in urban areas of low-income countries are stunted, and mortality rates of children under five are 5–20 times higher than they would be if urban populations had adequate access to healthcare and nutrition.<sup>73</sup> As more people move to urban areas, this influx will exacerbate the current situation and increase risks to children's survival.

Urbanisation is occurring at a rapid rate. More than 50% of the world's population, around 3.3 billion people, now live in urban areas compared to 15% in 1990, and this figure is expected to rise to 5.3 billion by 2050.<sup>74</sup> Migration to urban areas is also an adaptation strategy in itself: where agricultural and natural resource-based livelihoods are no longer viable, people often have no choice but to leave their rural homes in search of alternative livelihoods and economic stability or stay behind and try to eke out a living. Cities can offer a wealth of opportunities, with greater access to wage labour in factories and industry. For many people, the potential benefits of moving to a city outweigh the costs.

## ADDITIONAL BURDENS ON WOMEN

The changes brought about by climate change – desertification, reduced agricultural production, changing weather patterns – will place additional burdens on women and girls, which in turn will affect children's chances of survival. Women in developing countries are predominantly responsible for feeding and caring for their children, as well as being involved in household food production or buying food from local markets. Girls also carry a large burden of household responsibilities, often

collecting fuel and water, as well as caring for other family members.

Women make up two-thirds of the world's poor people and an estimated 70–80% of agricultural workers. As climate change is predicted to reduce agricultural productivity in many areas, women will face an additional threat to their livelihoods, with few alternative options for earning an income. Furthermore, as water resources become depleted, women and girls in developing countries who have no choice but to collect water will have to walk even greater distances or buy water from street vendors, often at inflated prices.

Another critical issue is access to education. Women themselves identify education as an essential strategy to help their children adapt to the effects of climate change in the long term.<sup>75</sup> In addition, education is vital for women's empowerment and for maternal, newborn and child survival. The evidence is clear: children of mothers with no education are more than twice as likely to die or be malnourished than children of mothers who have secondary education or higher qualifications.<sup>76</sup> Nonetheless, girls' access to education during conflict or natural disasters can be severely reduced. Girls are the first to be pulled out of school to support their families, carry out household chores or work to bring in extra income.<sup>77</sup> As these situations intensify and become more frequent as a result of climate change, girls' access to education could be further compromised.

Women and children must be consulted and involved in strategies to adapt to climate change. Women show exceptional leadership and are the first to make changes in their communities and for their children to reduce disaster risk as well as adapt to climate change. Unless women are involved in decision-making, leadership and implementation, efforts to reduce the risks associated with disasters and climate change are unlikely to succeed.<sup>78</sup>

# INTERVENTIONS TO TACKLE CHILD SURVIVAL

To reduce the threats to child survival from the effects of climate change, it is essential that adaptation strategies focus on the needs of children in the world's poorest countries. Climate change adaptation refers to the ways individuals, communities and governments prepare for and respond to the effects of climate change. Between \$100 billion and \$300 billion each year will be needed to meet the adaptation needs of developing countries.<sup>79</sup> It is imperative that this funding be additional and not diverted away from existing development and humanitarian aid budgets. To ensure that children's needs are adequately addressed, adaptation measures will need to give attention to nutrition, health systems, child-centred disaster risk reduction and social protection.

## STRENGTHENING HEALTH SYSTEMS

To increase children's chances of survival, strengthening health systems at all levels – national, district, sub-national and local – must be a central component of adaptation. Adults and children who are in good health are less vulnerable to disease and therefore have greater adaptive capacity. Yet health systems in many countries are weak and ineffective and fail to meet the needs of the poorest people, leaving millions of children at risk. Additional investment is needed to enable sufficient health staff to be recruited and retained, and trained to prepare for and manage health emergencies.

It is vital that there are effective, multi-hazard early warning systems in place to detect epidemics or changing disease patterns, as well as systems that

will activate response to epidemics quickly and efficiently. Health ministries also need support to develop their capacity to prepare for and respond to health emergencies. In order to do so, they will need access to international funds to enable them to adapt to climate change, predict its likely effects on health systems, and reduce the risk and impact of natural disasters or epidemics.

In the meantime, interventions to save a child's life need not be expensive or complex. Simple solutions such as mosquito nets (for malaria), access to oral rehydration therapy (for diarrhoea) and vaccinations against common diseases (such as measles) are highly effective. Yet millions of children today still lack access to these life-saving interventions. In Nigeria, for example – a country with one of the highest rates of child mortality – only 1% of children under five years old sleep beneath an insecticide-treated net.<sup>80</sup> Climate change should bring a renewed sense of urgency to providing these life-saving interventions to children and their families due to its impact on disease distribution.

## FOOD SECURITY AND NUTRITION

Given the likely negative effects of climate change on children's nutrition and food security, it is essential that adaptation measures focus on these areas. High levels of poverty, fragile and natural resource-based livelihoods, as well as a lack of purchasing power are among the underlying causes that lead to chronic food insecurity. As a result, efforts to promote greater food security

and to tackle malnutrition in the context of climate change must build on and broaden interventions that have proven successful in reducing malnutrition, building people's resilience to shocks, and reducing poverty.

Proven approaches to address malnutrition and the broader issue of food insecurity among poor populations are safety nets and social cash transfers (key components of social protection). Safety nets include transfers of for example cash or vouchers in emergency situations, often delivered by non-governmental or UN agencies, that strengthen access to food and that prevent them having to sell livelihood assets. Social cash transfers are usually delivered by governments on a permanent basis in order to address poverty and vulnerability. Both approaches have a critical role to play in building people's resilience to shocks, helping them cope with them when they occur, and reducing child mortality.<sup>81</sup>

Cash transfers provide predictable, regular cash grants to individuals or households. For example, in Ethiopia, Save the Children successfully targeted the most vulnerable households, who received seasonal cash or food transfers as part of the government's Productive Safety Net Programme. In Swaziland, part of Save the Children's response to the drought in 2007 focused on providing food and cash transfers.<sup>82</sup> In both settings, cash transfers increased the poorest families' access to nutritious foods, increased the diversity of food consumed, and increased investment in alternative livelihood activities and healthcare.

Save the Children's experience has shown that spending on healthcare can triple when cash transfers are used. In addition, households receiving reliable and predictable sources of cash no longer turn to coping mechanisms that could be harmful in the long term, including withdrawing their children from school or the sale of assets such as livestock.<sup>83</sup>

To date, the climate change treaty negotiations in the run-up to the UN Climate Change Conference in Copenhagen in December 2009 have focused on the role of insurance as a way of supporting

adaptation to the effects of climate change. Less attention has been paid to a wider package of social protection measures, including cash transfers. Cash transfers that actively target children under five as well as pregnant and lactating mothers have the potential to tackle malnutrition brought about by climate change.

On a wider scale, adaptation measures must target the poorest people worldwide. During the Climate Change Congress in March 2009 (a meeting attended by more than 2,500 delegates from 80 countries), calls were made for funds for adaptation to support a global safety net for the poorest people affected by climate change. Save the Children supports this call and argues that children's needs must be prioritised in all adaptation interventions.

## NATIONAL PLANNING TO ADDRESS ADAPTATION

Countries with high rates of child mortality should focus adaptation plans on reducing child mortality. Adaptation plans should be mainstreamed into national disaster management policy, poverty reduction programmes and other national-level instruments. For adaptation plans to be successful, they must be adequately funded and ensure that children participate in planning and decision-making.

Forty of the world's Least Developed Countries (LDCs) have developed a National Adaptation Programmes of Action (NAPA) designed to meet urgent adaptation needs. Though the extent to which these plans focus on children's issues – and child mortality in particular – varies considerably, they include priority needs and adaptation activities specific to each country's context. The Least Developed Countries Fund (LDCF) of the Global Environment Facility (GEF), established under the United Nations Framework Convention on Climate Change, provided funding for LDCs to develop these plans.

However, while funding was made available to draw up adaptation plans, there is a lack of funding to implement the urgent activities identified. As a result, only a very small number of projects have been funded – in all, the projects identified in the NAPAs total around \$1.5 billion.

Future, updated NAPAs and additional adaptation planning should focus on securing children's right to participate in decision-making. Involving children in the planning, design and implementation of projects is the best way to ensure that their needs are addressed, and that the project will be successful.

## INTEGRATING CLIMATE RISK INFORMATION

In order to adapt to changing environments and risks brought about by climate change, it is essential that climate and weather-related projections and forecasts reach the very people whose lives depend on them, as well as the organisations, governments and donors who work with them. For example, if information is shared effectively and in a timely manner, farmers can adapt their planting accordingly and not have to wait and hope that their crops will grow successfully each season. This information is also essential for all aspects of development and humanitarian planning.

## INVESTING IN CHILD-CENTRED DISASTER RISK REDUCTION

Activities undertaken before the onset of a natural disaster can build people's resilience to shocks and help ensure that children and their families are as prepared as they can be. Disaster risk reduction (DRR) is defined as any activity carried out by a village, community, aid agency or government that helps prepare for, reduce the impact of, or prevent disasters. DRR includes all strategies and practices designed to minimise vulnerability and disaster risk at all levels of society.<sup>84</sup> DRR has been highlighted by the UN Secretary-General Ban Ki-moon as the first line of defence in adapting to climate change.<sup>85</sup>

While some natural disasters are natural in their origin, the gravity of their impacts is not beyond our control. Children and their communities can become more resilient to the risks posed by disasters. The actions of donors, governments, aid agencies, communities and individuals can help reduce children's vulnerability. Indeed, DRR is increasingly considered a priority in climate change negotiations. More needs to be done to move beyond rhetoric and ensure that climate change adaptation and DRR are linked in policy and practice, to increase children's chances of survival whenever disaster occurs

Children are among the most vulnerable people when a disaster strikes – but they should not be seen as victims. Save the Children's experience shows that, given the space and opportunity, children can meaningfully participate and show leadership in activities to protect themselves as well as their wider community from the effects of a disaster. They are also best placed to identify their needs and plan what needs to be done for an effective response. In Vietnam, for example, children taking part in a Save the Children DRR programme identified two simple interventions to help them during flooding: pre-positioning emergency boats to take them to school, and learning how to swim (see case study on page 17). Yet children's specific needs are frequently ignored or not sufficiently taken into account by communities, aid agencies and governments.

Even with DRR measures in place, there will be times when local capacity will be overwhelmed and an international intervention will be required. The proliferation of natural disasters – including small-scale, climate-related events – will challenge the humanitarian system's ability to respond. In order to meet increased needs, aid must be swift and well targeted, and donors must ensure that staff on the ground in a position to scale up quickly. Wherever possible, it will be crucial to help communities prepare for and respond to the increasingly frequent threat of disaster.

## REDUCING THE RISKS

Floods are a regular occurrence in some parts of Vietnam. Involving children in activities to reduce the risks from flooding means that children – and their families and communities – are better prepared. It also empowers children.

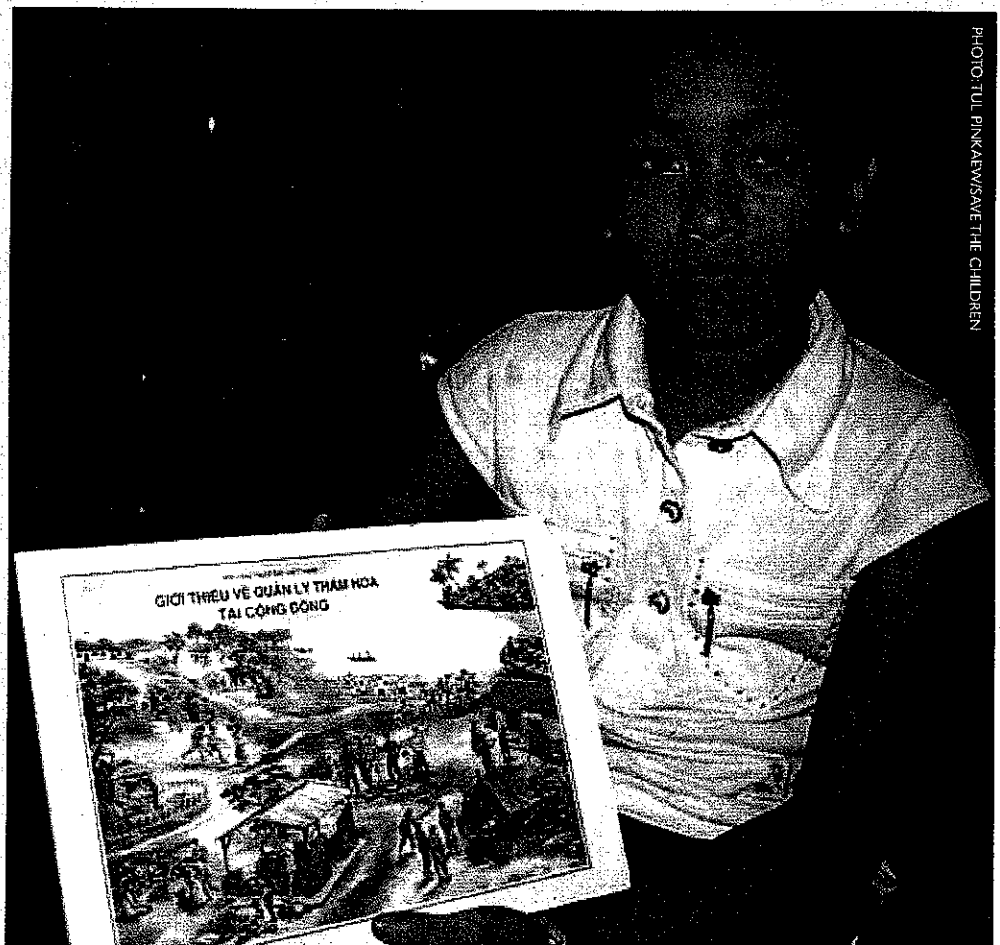
Bui Thi Thu Hang, who lives in a flood prone area in Vietnam, goes to a 'disaster preparedness club' at her school. "Through involvement with the club, I learned so much about how children can prepare for disasters to help reduce casualties and how we can be confident about expressing our ideas to adults to help make our community a safer place," she says.

"I was selected to lead the club as I was the class head and because I was one of the pupils living in a disaster-prone area. We produce a

risk map that shows all the vulnerable areas as well as evacuation routes where people can make their way to safe areas. Our club members go to the vulnerable areas and talk to people about how and when to leave. Through a network of friends and families, our members also monitor at-risk areas and inform the People's Committee of Storm and Flood Control if there is a change in the situation.

"When we want to talk to communities about preparedness, I don't get scared at all talking to adults. The only thing in my mind is to inform people that they are living in a dangerous area and they must know how to protect themselves. I believe that children have a right to be heard and we have good ideas that people should listen to."

Bui Thi Thu Hang with an illustration showing steps to tackle the threat of flooding



# CONCLUSION AND RECOMMENDATIONS

Many of the countries with the highest levels of child mortality and predicted to be most affected by climate change are largely unprepared for the additional challenges they will face. Children in these countries – especially children under the age of five – are in danger of increased risk of mortality.

The sooner global emission of greenhouse gases that cause climate change are reduced, the less severe the impact of climate change will be. For mitigation to have its desired effect, global temperatures must be kept as far below an increase of 2°C as possible.<sup>86</sup> There is little time to lose: global temperatures have already risen by 0.76°C and the 12 warmest years on record occurred within the past 13 years.<sup>87</sup> To ensure that the worst-case scenario predictions are not realised, governments must commit to a bold and binding international agreement to reduce global emissions.

Even if all greenhouse gas emissions were halted tomorrow, the earth's average temperature would continue to rise by 0.6°C by 2050, as greenhouse gases already trapped by the earth's atmosphere can take decades to cause warming. While it is within our power to reduce emissions, we cannot turn back the clock. This is why adaptation strategies for the poorest countries must be an integral part of any agreement on mitigation; adaptation strategies need to be adequately funded and reach affected communities without delay.

Governments must provide resources to strengthen health systems in developing countries, and invest in social protection. They must also support other measures to tackle malnutrition such as increased access to improved agricultural inputs, and find ways to increase the availability of nutrient-rich foods for the most vulnerable people. Donors and aid agencies should invest in adaptation and DRR plans that address children's needs. In addition, there should be greater coordination and policy coherence to reduce risks and build people's resilience to both sudden- and slow-onset disasters.

Finally, donors and developing country governments must re-focus their efforts to achieve the MDGs – particularly the goals for improving child health and reducing poverty and hunger – to give children themselves the best chance of adapting to and surviving the effects of climate change. National governments and international institutions also have a moral obligation to ensure that interventions to improve children's chances of survival are 'climate proofed' to withstand climate change.

The world's poorest children are not responsible for climate change, yet they are the ones who are hardest hit – the decisions taken in Copenhagen in December 2009 will affect them the most, and they must not be forgotten. The time to act is now.

Save the Children makes the following policy recommendations:

1. Donors and national governments should strengthen and 'climate proof' health, water and sanitation systems in developing countries with high levels of child mortality.
2. Donors, national governments and multilateral institutions should increase investment for and support to social protection strategies that have proven effective in tackling malnutrition and poverty among the poorest families.
3. Adaptation to climate change should involve children and support interventions that have been proven to respond to their needs and priorities. Children have the right to participate in decisions that affect their lives, and as such, adaptation planning, particularly National Adaptation Programmes of Action (NAPAs), must involve children in identifying appropriate interventions.
4. Donors, national governments and the UN should ensure that the humanitarian system is fit for purpose and ready to cope with increased demand.
5. Donors and national governments should put multi-hazard early warning systems in place to alert officials to both slow- and rapid-onset disasters, as well as epidemics, before they reach full emergency levels.
6. Investments in disaster risk reduction by donors, national governments, the UN and multilateral institutions should be child-centred and ensure that children participate in identifying appropriate interventions.
7. National governments must sign a binding agreement in Copenhagen in December 2009 to reduce greenhouse gas emissions by 80% by 2050.

# REFERENCES

## Executive summary

<sup>1</sup> In many countries already feeling the effects of climate change, children under five make up between 10% and 20% of the population.

<sup>2</sup> E Heelas, *Child Climate Change and Undernutrition: A review*, London School of Hygiene and Tropical Medicine

<sup>3</sup> A McMichael, S Friel, A Nyong and C Corvalan, 2008, Global environmental change and health: impacts, inequalities and the health sector, *BMJ*, 336: 191–194

## Introduction

<sup>4</sup> UNICEF, *The State of the World's Children 2009: Maternal and newborn health*, pp 8–9, UNICEF, 2008

<sup>5</sup> R Black, S Morris and J Bryce, 'Where and why are 10 million children dying each year?', *The Lancet*, 361, 9376, 2003, pp 2226–2234

<sup>6</sup> UNICEF, 2008 – see note 4

<sup>7</sup> Intergovernmental Panel on Climate Change (IPCC), *Fourth Assessment Report: Climate Change 2007: Impacts, adaptation and vulnerability*, 2007

<sup>8</sup> Global Humanitarian Forum, *Climate Change: The anatomy of a silent crisis*, Global Humanitarian Forum, 2009

<sup>9</sup> Global Humanitarian Forum, 2009 – see note 8

<sup>10</sup> Intergovernmental Panel on Climate Change (IPCC), 2007 – see note 7

<sup>11</sup> Save the Children, *Reducing Risks, Saving Lives*, International Save the Children Alliance, 2009

<sup>12</sup> Demographic and Health Surveys, [www.measuredhs.com](http://www.measuredhs.com) accessed 24 September 2009

<sup>13</sup> UNICEF, 2008 – see note 4; Uppsala Conflict Database and Crisis Group, Uppsala Universitet, [www.pcr.uu.se/database/index.php](http://www.pcr.uu.se/database/index.php), accessed 3 August 2009

<sup>14</sup> E Levina, *Adaptation to Climate Change: International agreements for local needs*, Organisation for Economic Co-operation and Development (OECD), 2007

## I The direct effects of climate change on child survival

<sup>15</sup> A Costello, et al, 'Managing the health effects of climate change', *The Lancet*, 373, 9676, 2009, pp 1693–1733

<sup>16</sup> UNICEF, *The State of the World's Children 2008: Child survival*, UNICEF, 2007

<sup>17</sup> The Global Humanitarian Forum estimates that 95,000 fatalities from diarrhoea are as a result of climate change, and as children under 5 account for 90% of those who die, our estimates suggest that 85,000 children are dying from diarrhoea associated with climate change.

<sup>18</sup> World Health Organization (WHO), *Combating Waterborne Disease at the Household Level*, 2007

<sup>19</sup> Intergovernmental Panel on Climate Change (IPCC), 2007 – see note 7

<sup>20</sup> Intergovernmental Panel on Climate Change (IPCC), 2007 – see note 7

<sup>21</sup> Intergovernmental Panel on Climate Change (IPCC), 2007 – see note 7

<sup>22</sup> Up to one-fifth of global emissions come from deforestation. After the USA and China, Indonesia and Brazil are the third and fourth biggest emitters of greenhouse gases

<sup>23</sup> World Health Organization, *Climate Change and Human Health: Risks and responses*, 2003 [http://books.google.co.uk/books?id=tQFYjDEwhlC&dq=McMichael+Climate+change+and+health:+risks+and+response+2003&printsec=frontcover&source=bn&hl=en&ei=67YKSpWbKaVVTjAfHt623Cw&sa=X&oi=book\\_result&ct=result&resnum=4#PPA96,M1](http://books.google.co.uk/books?id=tQFYjDEwhlC&dq=McMichael+Climate+change+and+health:+risks+and+response+2003&printsec=frontcover&source=bn&hl=en&ei=67YKSpWbKaVVTjAfHt623Cw&sa=X&oi=book_result&ct=result&resnum=4#PPA96,M1) accessed 26 September 2009

<sup>24</sup> B Obama, 'A pledge to end deaths from malaria by 2015', 2007 [http://obama.3cdn.net/c66c9bcf20c49ee2ce\\_h6ynmvjq8.pdf](http://obama.3cdn.net/c66c9bcf20c49ee2ce_h6ynmvjq8.pdf) accessed 24 September 2009

<sup>25</sup> Intergovernmental Panel on Climate Change (IPCC), 2007 – see note 7

<sup>26</sup> A Githeko and W Ndegwa (2001), 'Predicting malaria epidemics in the Kenyan Highlands using climate data: a tool for decision makers', *Global Change Human Health*, Vol 2:1, pages 54–63



- <sup>27</sup> B Obama, 2007 – see note 24
- <sup>28</sup> S Hales, N de Wet, J Maindonald and A Woodward, 'Potential effect of population and climate changes on global distribution of dengue fever: an empirical model', *The Lancet*, **360**, 9336, 2002, pp 830–834
- <sup>29</sup> Global Health Council, 'Interventions in Health', [www.globalhealth.org/child\\_health/interventions/](http://www.globalhealth.org/child_health/interventions/) accessed 26 September 2009
- <sup>30</sup> R Black, L Allen, ZA Bhutta, L Caulfield, M de Onis, M Ezzati, C Mathers and J Rivera, 'Maternal and child undernutrition: global and regional exposures and health consequences', *The Lancet*, **371**, 9608, 2008, pp 243–260
- <sup>31</sup> R Black, et al, 2008 – see note 30
- <sup>32</sup> Intergovernmental Panel on Climate Change (IPCC), 2007 – see note 7
- <sup>33</sup> UN Food and Agriculture Organization (FAO), *Special Event on Impact of Climate Change, Pests and Diseases on Food Security and Poverty Reduction*, Background Document, 2005, [http://ncsp.va-network.org/UserFiles/File/PDFs/Resource%20Center/Agriculture/FAO\\_31st.pdf](http://ncsp.va-network.org/UserFiles/File/PDFs/Resource%20Center/Agriculture/FAO_31st.pdf) accessed 26 September 2009
- <sup>34</sup> Intergovernmental Panel on Climate Change (IPCC), 2007 – see note 7
- <sup>35</sup> A Costello, et al, 2009 – see note 15
- <sup>36</sup> Food and Agriculture Organization, *The State of Food Insecurity in the World 2008*, 2008
- <sup>37</sup> J Bernard, 'Impact of prices on households' livelihoods in Burkina Faso', Save the Children UK, unpublished research, 2008
- <sup>38</sup> Global Economic Prospects 2009, World Bank, January 2009.
- <sup>39</sup> Global Poverty Alert Non Paper, 9 March
- <sup>40</sup> Global Humanitarian Forum, 2009 – see note 8
- <sup>41</sup> Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2001 Synthesis Report: Summary for policymakers*, 2001
- <sup>42</sup> G C Nelson et al, *Climate Change: Impact on agriculture and costs of adaptation*, International Food Policy Research Institute, 2009
- <sup>43</sup> Intergovernmental Panel on Climate Change (IPCC), 2001 – see note 41; R Warren, N W Arnell, R J Nicholls, P E Levy and J Price, 'Understanding the regional impacts of climate change', Research report prepared for the Stern Review on the Economics of Climate Change, Tyndall Centre Working Paper 90, 2006
- <sup>44</sup> EM DAT, CRED [www.emdat.de](http://www.emdat.de)
- <sup>45</sup> M Webster, J Ginnetti, P Walker, D Coppard and R Kent, *The Humanitarian Costs of Climate Change*, Feinstein International Center, 2008
- <sup>46</sup> United Nations International Strategy for Disaster Reduction, *Global Assessment Report on Disaster Risk Reduction: Risk and poverty in a changing climate*, 2009
- <sup>47</sup> United Nations International Strategy for Disaster Reduction, 2009 – see note 46
- 2 The indirect effects of climate change on child survival**
- <sup>48</sup> World Health Organization, 'Health systems', [www.who.int/topics/health\\_systems/en/](http://www.who.int/topics/health_systems/en/) accessed 26 September 2009
- <sup>49</sup> UNICEF, 2008 – see note 4
- <sup>50</sup> A Costello, et al, 2009 – see note 15
- <sup>51</sup> Save the Children, *Helping Children Survive: Supporting poor families to overcome barriers to maternal, newborn and child health services*, Briefing paper, 2008
- <sup>52</sup> D Gwatkin, S Rutstein, K Johnson, E Suliman, A Wagstaff and A Amozou, 'Socio-economic differences in health, population and nutrition within developing countries: An overview', Washington, World Bank, 2007
- <sup>53</sup> L Bartlett, S Mawji, S Whitehead, C Crouse, S Dalil, D Ionete, P Salama and Afghan Maternal Mortality Study Team, 'Where giving birth is a forecast of death: maternal mortality in four districts of Afghanistan', 1999–2002, *The Lancet*, **365**, 9462, 2005, pp 864–870
- <sup>54</sup> MDG Goal Eight Report, Child Survival Factsheet
- <sup>55</sup> UNICEF, 2008 – see note 4
- <sup>56</sup> L Bartlett et al, 2005 – see note 53 [www.dkmic.de/afghanistan/Afghanistan%20maternal%20mortality.pdf](http://www.dkmic.de/afghanistan/Afghanistan%20maternal%20mortality.pdf) accessed 26 September 2009
- <sup>57</sup> B Coghlan, P Ngoy, F Mulumba, C Hardy, V Bemo, T Stewart, J Lewis and R Brennan, *Mortality in the Democratic Republic of Congo: An ongoing crisis*, International Rescue Committee/Burnet Institute, 2007, [www.theirc.org/resource-file/irc-congo-mortality-survey-2007](http://www.theirc.org/resource-file/irc-congo-mortality-survey-2007) accessed 26 September 2009
- <sup>58</sup> UN Special, *Statement by the Director General of the WHO*, May 2009 [www.unspecial.org](http://www.unspecial.org)
- <sup>59</sup> International Strategy for Disaster Reduction (ISDR), World Health Organization and World Bank, *Hospitals Safe from Disasters: Reduce risk, protect health facilities, save lives*, 2008–2009 World Disaster Reduction Campaign
- <sup>60</sup> Intergovernmental Panel on Climate Change (IPCC), *Climate Change and Water*, IPCC Technical Paper VI, 2008, [www.ipcc.ch/pdf/technical-papers/climate-change-water-en.pdf](http://www.ipcc.ch/pdf/technical-papers/climate-change-water-en.pdf) accessed 26 September 2009
- <sup>61</sup> A Costello, et al, 2009 – see note 15
- <sup>62</sup> Intergovernmental Panel on Climate Change (IPCC), 2007 – see note 7
- <sup>63</sup> 'Climate-displaced people' is the term used to describe people who, predominantly involuntarily, are forced to move or are displaced, either permanently or temporarily, because of climate change, through its impacts and related shocks
- <sup>64</sup> United Nations Framework Convention on Climate Change, *Climate Change, Migration and Displacement: Who will be affected?*, <http://unfccc.int/resource/docs/2008/smsn/igo/022/pdf> accessed 26 September 2009

<sup>65</sup> Save the Children, *Away from Home: Protecting and supporting children on the move*, 2008

<sup>66</sup> Save the Children, 2008 – see note 65

<sup>67</sup> Save the Children, 2008 – see note 65

<sup>68</sup> S Bartlett, *Climate Change and Urban Children: Impacts and implications for adaptation in low- and middle-income countries*, International Institute for Environment and Development (IIED), Human Settlements Discussion Paper Series, 2008, [www.iied.org/pubs/pdfs/10556IIED.pdf](http://www.iied.org/pubs/pdfs/10556IIED.pdf) accessed 26 September 2009

<sup>69</sup> Measles is one of the leading causes of deaths in young children, causing 4% of mortality in children under 5, with more than 95% of deaths occurring in low-income countries with weak health infrastructure

<sup>70</sup> UN-Habitat, *Water & Sanitation in the World's Cities: Local action for global goals*, Earthscan, 2003

<sup>71</sup> S Bartlett, 2008 – see note 68

<sup>72</sup> World Health Organization, *Protecting Health from Climate Change – World Health Day 2008*, WHO, 2008, [www.who.int/world-health-day/toolkit/report\\_web.pdf](http://www.who.int/world-health-day/toolkit/report_web.pdf) accessed 26 September 2009

<sup>73</sup> D Dodman and D Satterthwaite, 'Institutional capacity, climate change adaptation and the urban poor', *IDS Bulletin*, 39, 4, 2008

<sup>74</sup> UN-Habitat, *State of the World's Cities 2008/2009: Harmonious cities*, 2008

<sup>75</sup> International Institute for Sustainable Development (IISD), CARE and Save the Children, *Climate-related vulnerability and adaptive capacity in Ethiopia's Borana and Somali communities*, forthcoming

<sup>76</sup> Save the Children US, *State of the World's Mothers 2006: Saving the lives of mothers and newborns*, 2006

<sup>77</sup> Save the Children, *Delivering Education for Children in Emergencies: A key building block for the future*, International Save the Children Alliance, 2008, [www.savethechildren.org/publications/rewrite-the-future/delivering\\_education\\_emergencies.pdf](http://www.savethechildren.org/publications/rewrite-the-future/delivering_education_emergencies.pdf) accessed 26 September 2009

<sup>78</sup> ISDR, *Gender Perspectives: Integrating disaster risk reduction and climate change adaptation – Good practices and lessons learned*, 2008, [www.unisdr.org/eng/about\\_isdr/isdr-publications/17-Gender\\_Perspectives\\_Integrating\\_DRR\\_CC/Gender\\_Perspectives\\_Integrating\\_DRR\\_CC\\_Good%20Practices.pdf](http://www.unisdr.org/eng/about_isdr/isdr-publications/17-Gender_Perspectives_Integrating_DRR_CC/Gender_Perspectives_Integrating_DRR_CC_Good%20Practices.pdf) accessed 26 September 2009

### 3 Interventions to tackle child survival

<sup>79</sup> Stamp Out Poverty, *Assessing the Alternatives: Financing climate change mitigation and adaptation in developing countries*, 2009, [www.stampoutpoverty.org/?lid=10939](http://www.stampoutpoverty.org/?lid=10939) accessed 26 September 2009

<sup>80</sup> UNICEF, 2009 – see note 4

<sup>81</sup> Save the Children, *Lasting Benefits: The role of cash transfers*, 2009

<sup>82</sup> S Devereux and P Jere, 'Choice, Dignity and Empowerment?' Cash and food transfers in Swaziland. An evaluation of Save the Children's emergency drought response 2007/08, June 2008, [www.ids.ac.uk/index.cfm?objectid=21BE5A77-5056-8171-7B354BE571F19A42](http://www.ids.ac.uk/index.cfm?objectid=21BE5A77-5056-8171-7B354BE571F19A42) accessed 26 September 2009

<sup>83</sup> Save the Children, *How cash transfers can improve the nutrition of the poorest children: Evaluation of a pilot safety net project in southern Niger*, 2009, [www.savethechildren.org.uk/en/54\\_7871.htm](http://www.savethechildren.org.uk/en/54_7871.htm) accessed 26 September 2009

<sup>84</sup> Save the Children, 2009 – see note 11

<sup>85</sup> 'Secretary-General calls on Ministers to champion risk reduction as core element of climate change adaptation, implement such policies as first line of defence', UN Department of Public Information, News and Media Division, New York, September 2008, [www.un.org/News/Press/docs/2008/sgsm11841.doc.htm](http://www.un.org/News/Press/docs/2008/sgsm11841.doc.htm) accessed 26 September 2009

### 4 Conclusion and recommendations

<sup>86</sup> A Costello, et al, 2009 – see note 15

<sup>87</sup> A Costello, et al, 2009 – see note 15

# FEELING THE HEAT

## CHILD SURVIVAL IN A CHANGING CLIMATE

"Climate change greatly increases the risk that the most basic rights of children in poor countries will not be met. These children are particularly vulnerable to the impacts of global warming and yet least to blame.

"Save the Children's report is very important and timely, coming just a month before the start of the Climate Conference in Copenhagen. Policy-makers all over the world must use this opportunity to adopt an ambitious agreement that will ensure that global warming does not exceed 2°C. Exceeding this limit would have devastating consequences for poor children and other vulnerable groups. Norway and other rich countries must make sure that there is funding for disaster risk reduction and adaptation in poor countries, and make it attractive for developing countries to choose climate-friendly development options.

"Save the Children's report identifies practical steps that should be taken in order to ensure that the world's most vulnerable children are given a chance of survival."

**Erik Solheim, Minister of the Environment and International Development,  
Government of Norway**

"The world is facing urgent development needs. We see examples of poor countries and people who have not contributed to climate change being hit hardest by the consequences. Development for the sake of development is not what we need. We need sustainable development, where clean water, food and medicines are accessible to everyone.

"There are many expectations, hopes and demands being directed at us as world leaders ahead of the UN Climate Change Conference in Copenhagen in December 2009. And so there should be. The decisions we make in Copenhagen on how to reduce our emissions and adapt to climate change will have a real impact on our future. Not just our future, but the future of the next generation. This affects all of us; this is why the work of Save the Children, not least its report *Feeling the Heat*, is a welcome contribution showing genuine commitment."

**Andreas Carlgren, Minister of Environment, Government of Sweden  
(holder of the presidency of the EU, July–December 2009)**



**Save the Children**

[www.savethechildren.net](http://www.savethechildren.net)