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Don't be scared, be prepared

How disaster preparedness can save lives and money

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'We cannot stop natural calamities, but we can and must better equip individuals and communities to withstand them.'

Kofi Annan, UN secretary-general, October 2005

'Don't be scared, be prepared.'

Earthquake safety campaign slogan, India

'If we had only ten minutes' warning, we would have been saved. Even with five minutes, we would have had a chance to escape. But by the time we saw the wave, it was just 20 metres away.'

Tanonsak, 22, a hotel worker in Thailand

Summary

This has been the year of natural disasters. From the Boxing Day tsunami to the broken levees of New Orleans to the shattered mountains of Pakistan, people worldwide have faced unprecedented catastrophe. As the pace and intensity of disasters grows, fuelled by climate change and lack of government foresight, Christian Aid believes that the poorest communities must be better able to prevent their worst effects.

The headlines talk about the response: raising money, rescuing people from the rubble, rebuilding homes washed away by tsunami waves. What is not a story is survival: what happens when, because of simple steps, people are saved.

This briefing paper argues that this *should* be the story – how, in inexpensive and effective ways, we can keep tragedy from hitting so hard. It argues that, had people been warned along the coastlines of the Indian Ocean, tens of thousands would have been saved. With simple ocean sensors costing not more than US\$20,000, scientists could have sent out warnings. For most people, safety was only a 15-minute walk away from the sea. But they had no warning. Within hours, up to 250,000 of them died.

In the West, safety is something we take for granted: structural engineers arrive to inspect our homes and office buildings, building on flood plains is prohibited. Yet the gulf between safety and hazard is greater than ever before. Getting community-based early warning systems in place in the Indian Ocean is urgent. The Sumatra fault will rupture again with potentially equally devastating consequences to that of the Boxing Day tsunami, says a leading geophysicist. 'It's not a matter of if, but when,' Barry Hirschorn of the Pacific Tsunami Warning Center told us. 'It's an elastic band, waiting to snap.'

We in the West get better at constructing safe buildings while tens of thousands of people die in Pakistan for lack of basic building standards. In San Francisco, where tall buildings stand on rollers that move with the tremors, the last major earthquake caused the deaths of 62 people. In Turkey, an earthquake of similar magnitude killed 17,000. Each year, an average of 258 million people suffer from disaster – most of them in the developing world. As the pace and intensity of disasters rises, the poor are hit ever harder.

Disasters may be natural. But their consequences are not.

Many low-cost steps can be taken to reduce the impact of disasters. It is crucial that the local community is involved in disaster risk reduction. Simple advance warning systems are

essential. Buildings can be constructed to withstand earthquakes and crop diversification can help ensure people have enough to eat.

The lesson of 2005 is that we can and must take steps that save money and lives:

- In Pakistan, 500 children in one school alone were crushed to death when the building collapsed on them. £500 could have paid to make the school earthquake resistant: just £1 per child.¹
- While Japan warns its citizens of possible tsunamis within 30 seconds of a major earthquake, there was no warning system for the Indian Ocean. But just £20 would pay for a wind-up radio to help warn of cyclones, floods or tsunamis.
- Without a comprehensive disaster risk reduction strategy, the World Bank predicts that the costs of helping people after disaster will rise to US\$6-10 trillion over the next ten years – up to 230 times more than it spent in post-disaster reconstruction in just over two decades to 2003.
- Disasters in 2004 caused about US\$123 billion worth of damage, much of this from the Indian Ocean tsunami. But scientists say that even simple, inexpensive measures would have enabled them to sound the warning and save tens of thousands of lives.

The cheapest form of disaster prevention is community organising. Without this, the new Indian Ocean tsunami warning system, which will mirror the current Pacific Ocean warning system, will just be the high-tech icing without the low-tech cake.

The rising tide

'Not enough is spent on prevention. Disasters have a huge impact on development, and this challenge will increase as the impact of climate change becomes more widely felt.'

Hilary Benn, UK secretary of state for international development, December 2004

Disaster after disaster hit the globe this year as we watched a procession of tragic news stories on our television screens.

The Boxing Day tsunami killed nearly 250,000 people and left more than a million homeless. There were serious floods in China, India, Central America and parts of Europe. In Niger, 2.4 million people faced famine, while Malawi suffered a serious drought and food shortages. Hurricane Katrina in the United States reminded us that nowhere is immune from natural disasters. This year's earthquake in Pakistan killed more than 86,000 people and left 3.3 million homeless.

Total number of reported disasters, by year (1995 to 2004)

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Total
419	401	428	487	614	767	719	784	651	719	5,989

Total number of people reported killed, by year (1995 to 2004)

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Total
84,570	77,046	79,720	114,905	132,131	21,016	39,382	25,705	76,806	249,896	901,177

Source: EM-DAT, CRED, University of Louvain, Belgium

According to the *World Disasters Report*, compiled annually by the Red Cross, the number of natural disasters has increased steadily during the past 100 years. But in the past decade, the figures have risen sharply.

- An average of 354 natural disasters occurred throughout the world each year from 1991 to 1999.
- Between 2000 and 2004, this figure more than doubled to an average of 728 natural disasters per year.
- In each year of the past decade, an average of 258 million people have been through some kind of disaster – in total, the equivalent of almost half of the world's population.² Three-quarters of the world's population live in areas that were affected at least once by an earthquake, a tropical cyclone, flooding or drought between 1980 and 2000.³

The number of geophysical disasters – earthquakes, tsunamis and volcanic eruptions – has remained steady. But the number of hydro-meteorological (weather-related) disasters – including droughts, windstorms and floods – has more than doubled since 1996. This could be linked to climate change, and scientists predict global warming will result in more extreme weather patterns – stronger and increasingly violent storms, more rain, longer dry spells, more ferocious hurricanes.

When these extremes of nature affect the world's most vulnerable people they bring about huge disasters. Mix in human factors, such as environmental degradation, pollution, unplanned urban population growth and unsafe housing, and higher death tolls are the inevitable result.

Climate change and disasters

Huge numbers of people are already vulnerable to climate-related disasters in many parts of the world. Climate change is likely to worsen this picture – shifts in temperature and rainfall levels and the increasing frequency and severity of storms and hurricanes will trigger more and more disasters.

It is predicted that the climate will become drier in northern and southern Africa, increasing the frequency of droughts and food shortages. For example, in the Sahel (where there is currently a food crisis) there has been on average a 25 per cent decrease in rainfall over the past 30 years.

In Central America the most worrying aspect of climate change is the predicted drier conditions across region, leading to drought and more intense storms and hurricanes.

In light of Central America's increasing vulnerability to extreme weather, widely viewed as a product of climate change, Christian Aid appointed a specialist in 2003 to coordinate the disaster-mitigation efforts of partners there. The measures included:

- building coastal erosion barriers in El Salvador
- replanting mangrove trees in coastal regions and building coastal erosion barriers in El Salvador to prevent rapid erosion and maintain a natural buffer to strong winds, waves and storm surges
- 45 community-built portable homes for use as temporary shelters during hurricanes
- training of Christian Aid partners in emergency preparedness, formulating rapid evacuation plans.

Asia is faced with the prospect of more extreme floods, cyclones, heatwaves, droughts and rainfall. Such intense climatic conditions will place more and more lives and livelihoods at risk.

The long-term impacts of climate change will include:

- the increased economic cost of rebuilding after the damage caused by extreme weather conditions
- damage to agricultural production because of further changing rainfall patterns and drought, resulting in food shortages and drought
- shifting temperature zones that will increase the risk of diseases such as malaria and cholera
- reduced access to drinking water
- a rise in sea level and increased risk of flooding and loss of low-lying land.

Climate change will have an enormous economic impact – particularly in countries where agriculture is important and particularly for the poorest who often rely on the land for their living.

Climate change is a highly politicised issue and there is a lot of debate on its precise extent and expected effects. However there is general agreement that it already presents a significant challenge for developing countries. The need to adapt to these changes and mitigate against their worst effects is now being recognised as a crucial part of development planning.

The cost of disasters

In 2004 disasters caused about US\$123 billion worth of damage.⁴ Insurance covered just US\$49 billion of these losses.⁵

It is the poorest people who are most affected – and the least able to reduce the risk they face. And the more disasters they face, the poorer they become – a vicious cycle of poverty and vulnerability to disaster.

Unless we reduce the impact of disasters, says former head of the World Bank James Wolfensohn, we will not achieve the millennium development goals – internationally agreed targets to halve extreme poverty by 2015. ‘Reducing disaster vulnerability,’ he says, ‘may very well be the most critical challenge facing development in the new millennium.’

The World Bank estimates it will cost US\$7.2 billion to rebuild Indonesia, Sri Lanka and India after the tsunami and the UN estimates that rebuilding after the Kashmir earthquake will cost US\$5 billion. In Mozambique, one of the poorest and most indebted countries in the world, it cost more than US\$600 million to reconstruct destroyed public infrastructure after the devastating floods of 2000. But while the cost of providing emergency relief and reconstruction after disasters is huge, the damage they do to development is often immeasurable. Hurricane Mitch in 1998 set back the development of Central America’s most affected countries by 50 years.⁶

In economic terms, disasters reduce the output of the poorest nations by around three per cent, depriving them of resources they need to help people escape poverty, according to the European Commission’s Humanitarian Aid Department. Many developing countries can ill-afford this drain on scarce funds and have to borrow from institutions such as the World Bank or rely on charitable donations from foreign governments and publics to foot the bill.

Between 1980 and 2003, the World Bank spent US\$43 billion on dealing with disasters.⁷ But it’s cheaper and more cost-effective to address the problem in advance, not just clean up the mess in the aftermath.

Pay now – save lives later

‘More effective prevention strategies would save not only billions of dollars, but tens of thousands of lives. Funds currently spent on intervention and relief could be devoted to enhancing equitable and sustainable development instead, which would further reduce the risk of war and disaster.’

Kofi Annan, UN secretary-general

Disaster risk reduction is about saving lives and sparing people the grief of losing their loved ones or the loss of a home or job. But it also makes good economic sense.

The World Bank and the US Geological Survey have estimated that economic losses worldwide from natural disasters in the 1990s could have been reduced by US\$280 billion if US\$40 billion had been invested in preventative measures. They also estimate that every pound spent on risk reduction can save £7 in relief and repair costs. In other words, for every US\$1 spent, US\$7 would be saved in the long term – to say nothing of lives saved.

The US\$43 billion spent by the World Bank between 1980 and 2003 on helping people after disasters is a drop in the ocean compared to what, the Bank says, it is likely to spend in the

next ten years. Up to US\$10 billion will be the cost of post-disaster work if there is no comprehensive risk reduction strategy, it says. That's ten times the likely flow of development aid.⁸

This is a lesson in cost-effective spending we could have learned if we'd looked around. The US\$3.15 billion spent on flood control in China over the past 40 years, for instance, is estimated to have averted losses of around US\$12 billion. That's a return of US\$3.8 on a US\$1 investment.

Prevention v cure

Houses

- In India building a house using local materials and traditional designs, with earthquake- and cyclone-resistant features, costs 50,000 rupees (£630), which is about 10,000 rupees (£125) more than a house without safety features.
- In the Kashmir earthquake, whole families were buried alive when their homes collapsed on top of them.

Schools

- The cost of building a small rural primary school in India which is earthquake resistant is 240,000 rupees (£3,000), just 40,000 rupees (£500) more than a standard school. The cost of making an existing school earthquake resistant is 30,000 rupees (£380).
- In Kashmir 500 boys are reported to have died under one collapsed school building in the town of Balakot.

Community shelters

- A flood/cyclone shelter built by CASA in west Bengal costs around 1,800,000 rupees (£23,000).
- During floods in 2001 and 2003, more than 1,000 people sought safety in each of CASA's shelters.

Training

- Setting up and training 25 members of a disaster mitigation taskforce in search and rescue, contingency planning and first aid, and which covers five villages in India, costs around 105,000 rupees (£1,300).
- In 2004 these taskforces saved many lives after floods hit Assam in northeastern India.

Early warning

- The new Indian Ocean warning system will cost around US\$53 million but could save thousands or even hundreds of thousands of lives.
- But scientists say that, as an interim step, a simple network of 12 ocean sensors costing £10,000 each could have alerted them to the tsunami – giving them time to warn tens of thousands of people.

Agriculture

- £85,000 pays for a 'nutrition garden' project in Zimbabwe which trains around 240 gardeners to produce quick-growing and highly nutritious crops.
- The garden ensures people have enough to eat in times of famine, as well as providing the nutrition HIV-positive people need to help them prevent the onset of AIDS.

Unnatural disasters

No one could have foretold the calamity of the Sumatra earthquake and the Boxing Day tsunami, or been adequately prepared for its terrible consequences – not least in the Indian Ocean, where the last tsunami took place over a century ago.

But while disasters such as the tsunami may be natural, the consequences are not. We cannot prevent earthquakes or cyclones, but we *can* take measures to prevent such huge loss of life and infrastructure. We can construct buildings that are earthquake-resistant and do not crush people when they collapse. During the Pakistan earthquake, an estimated 17,000 children died when 2,448 schools collapsed.

Five million people in Malawi are currently in need of food aid. While it is not possible to prevent drought, it *is* possible to use soil and water conservation and drought-resistant crops, and construct grain stores so that people are not left to starve.

Simple steps

- In parts of India prone to floods and cyclones the Church's Auxiliary for Social Action (CASA) has built shelters and trained communities in first aid, search and rescue, early warning and disaster management.
- In Bangladesh, Christian Aid partners built cyclone shelters after a cyclone killed 140,000 people in 1991. Six years later a stronger cyclone killed just 100 people, partly because communities had somewhere to shelter from the storm.
- When Hurricane Stan hit Central America in October, our partners, trained in the aftermath of Hurricane Mitch, helped evacuate thousands of people to safety.
- In Malawi, our partners have been involved in risk-reduction activities such as winter cropping, crop diversification and irrigation projects.

‘We could have saved lives’

‘Simple awareness would have saved the majority of lives that were lost. It is very, very frustrating.’

Anshu Sharma, SEEDS, India

‘We have asked for homes that are disaster proof that will survive another tsunami or disaster. We don’t want this to happen to us again. We want a concrete community shelter which we can all go to in case there is a tsunami or a cyclone.’

Selvi, 36, from southern India

‘If I had had a stronger house, maybe it would have withstood the tsunami.’

Osmand de Silva, 42, Sri Lanka

The tsunami was an extraordinary natural event, which many people believe will not be repeated in their lifetime. However, scientists think it is likely there will now be more earthquakes along the underwater faultline off the coast of Indonesia, which could result in more devastating tsunamis.

‘There is the threat of another tsunami,’ says Bill McGuire, director of the Benfield Hazard Research Centre, based at University College London. ‘What is called “unzipping” of the fault is fairly common and that is what is being seen here. It could be in a few years or a few decades – it is impossible to say.’

‘At the moment the balance of disaster preparedness and disaster response is very skewed and that needs to change.’

According to Bill McGuire, an early warning system could have saved tens of thousands of lives in Thailand, Sri Lanka, southern India and further afield. A system of ocean-floor pressure sensors linked via satellite to provide tsunami warnings to emergency managers in the countries at risk is well established. More critical is an effective means of rapid dissemination of the warning to the affected populations. Ensuring that people understand the message and act upon it immediately will require a concerted education campaign accompanied by a multi-media warning signal, which may include everything from officials on bicycles blowing whistles to television broadcasts and text messages.

In Japan, earthquake and tsunami warnings appear on television screens within 30 seconds of a tremor. In Hawaii, the authorities hold annual evacuation and training drills and public awareness activities.

The UN-backed warning system that is planned for the Indian Ocean is to be welcomed. But it must be coupled with effective community planning if it is to be of practical use. There is little point in satellite technology alerting a centre in Delhi or Jakarta that a tsunami is on its way, if that message can’t be passed immediately to someone in every town, village and neighbourhood who can rouse people from their beds or alert them in their fields.

As Anshu Sharma of Christian partner SEEDS in India says: ‘Disaster warning comprises two main components: forecast formulation and warning dissemination. The proposed system is aimed at sound forecasting. We already have a good cyclone forecasting system in the region. Where we almost always fail is in the proper dissemination of warnings to the communities at risk.’

'Our problem is the missing communication link between the last node of the warning system and the actual communities at risk. Unless this is resolved, I doubt if any of our multi-million-dollar warning systems will actually deliver.'

Sheelu Francis, director of the Christian Aid partner the Women's Collective, adds: 'If we had had the warning system, we could not have saved houses, but we would have saved lives.'

'Since the tsunami, we have had two warnings about tsunamis. The entire coast moved out. It was very systematic. We now have FM radio coverage so people were talking about giving disaster warnings on FM radio. FM radio is something that people are hearing 24 hours a day; it is cheaper, it is accessible. Even on the sea people can listen to it.'

Susant Agrawal, director of our partner CASA, an agency with many years of experience in emergencies, wrote to us in the days after the tsunami: 'Disaster-mitigation taskforces like the ones they established in Orissa after the supercyclone would have certainly helped to reduce significantly the loss of lives. Damage to property and infrastructure could not have been prevented, but loss of lives – certainly.'

Malawi: pre-emptive actions saved lives

Disaster risk reduction is equally effective in slow-onset disasters such as famine. There are already a number of early warning systems, including the Food and Agriculture Organisation's Global Information and Early Warning System and the Famine Early Warning Systems Network.

Aid agencies are learning the lesson of not waiting for the television images of starving people before appealing to the public. In 2002, the Disasters Emergency Committee launched an appeal to help nearly 14 million people in southern Africa. This was an appeal to prevent severe food shortages after the region had suffered a lethal combination of floods, droughts, poor harvests and the mismanagement of national grain reserves. The appeal raised £16 million and saved thousands of lives.

The worst harvest in a decade and poor rains, exacerbated by mismanagement of national grain reserves, are resulting in a rapidly emerging food crisis in Malawi. One in seven people in Malawi is affected by HIV and AIDS, which is fuelling the problem of extreme hunger.

Christian Aid partners have included disaster mitigation in their long-term development work for a number of years and show how it can make the difference between life and death. They have helped people survive by:

- encouraging the cultivation of sturdy traditional crops, such as sorghum and millet rather than maize, which requires large amounts of water
- constructing dams to help irrigation
- substituting compost for expensive fertiliser.

Evangelical Lutheran Development Services (ELDS) runs an emergency project in Phalombe in the hard-hit south of the country. It provides food aid, seeds, fertiliser, water pumps, farming training and livestock. It also provides technical support to help communities build dams.

The recent extreme food shortages in Niger showed that it still takes television pictures of starving people to catch the world's attention. But if we incorporate disaster risk reduction into our work we will not have to wait for the visible signs of famine before taking action.

After the tsunami

In the extraordinary outpouring of generosity after the tsunami, governments pledged more than US\$6.9 billion, while public donations amounted to almost US\$5 billion. The UK public alone donated £400 million to the Disasters Emergency Committee (DEC) appeal, of which Christian Aid was a part.

Christian Aid is working with 33 partner organisations in India, Sri Lanka and Indonesia to rebuild shattered lives and communities. This year, our partners have concentrated on the initial relief effort: finding people shelter, offering them counselling to deal with their grief and getting them back to work. But disaster risk reduction will be a large component of our reconstruction effort over the next two years.

Building disaster-resistant housing

Several partners are already building disaster-resistant housing for some of the one million people made homeless.

- In Sri Lanka, Practical Action is building homes which have flat roofs for people to climb onto in case of another tsunami or flood.
- CASA is building 1,395 disaster-resistant homes in southern India.
- After extensive consultations with local communities, the South Indian Federation of Fishermen Societies is building around 1,600 homes that will withstand the impact of a cyclone in two villages in Tamil Nadu in southern India.
- In Aceh and Sri Lanka, Habitat for Humanity is building more than a thousand disaster-resilient houses.

Don't be scared: be prepared

Christian Aid partner SEEDS is planning to make existing school buildings earthquake-resistant and carry out earthquake safety education in schools in Shimla, north India – an area prone to earthquakes.

It plans to:

- make ten existing schools earthquake resistant by reinforcing walls, roofs, doors and windows. Masons trained by SEEDS in Gujarat after the 2001 earthquake, who have specific skills in earthquake resistant construction, will carry out the work. They will pass on their skills – honed during their post-tsunami reconstruction work in the Andaman Islands – to local builders and government officials.
- take simple measures to avoid injuries or deaths from earthquakes, which include making sure:
 - dangerous objects are secure
 - nothing can fall and block exit routes
 - doors open outwards (in a school stampede in India many children died as they were pushed against an inward opening door and crushed).
- conduct training in 750 schools covering 97,500 students and 7,500 teachers, who will be taught what to do during a disaster and how to prepare for one. Schools and government departments will receive 8,000 handbooks and 1,000 copies of a film on school disaster management. As part of its campaign last year, SEEDS organised a children's earthquake safety campaign with the slogan: 'Don't be scared, be prepared.'

Knowledge counts

Often it is the most basic knowledge that can save people. British schoolgirl Tilly Smith, 10, was on holiday in Thailand on Boxing Day. She had learnt about tsunamis in a geography lesson just weeks previously and recognised that the frothing and receding water was a sign that a tsunami was coming. She told her parents and managed to clear the beach, saving 100 people.

On the island of Simeulue off Aceh province, tales of tsunamis after earthquakes had been handed down since the last tsunami a century earlier. After they felt the quake, people ran inland. The ferocity of the tsunami destroyed 70 per cent of the houses, but fewer than 20 people died out of the island's 78,000 inhabitants. In some other parts of Aceh, the death toll was 90 per cent.⁹ Several far-flung communities on the Andaman and Nicobar islands in the Indian Ocean also reported hundred of lives being saved when traditional warning systems gave people time to flee to higher ground.

Christian Aid partners know the value of bicycles, loudhailers, whistles and air-raid sirens in alerting people to a disaster. They also know that once the alarm has been sounded, it is imperative that the community knows what to do: whether it be to gather in a specially-built centre or to climb onto the roof of their house.

Communities must be able to look after themselves, because in the first hours and days after an earthquake, flood or hurricane, it is local people who are responsible for saving lives and providing people with food, water and shelter.

Western aid agencies will never be the first on the spot, which shows both the importance of working with local partners and of training communities. In eastern Sri Lanka, the experience Christian Aid partner Thadaham had gained during a recent flood meant it was able to begin rescuing people almost immediately after the tsunami struck. In India, the cyclone shelters CASA built in the 1990s as part of its disaster-preparedness plan enabled it to provide shelter to 2,000 people in Andhra Pradesh after the tsunami.

In Sri Lanka, SwimLanka is teaching children to swim – a simple skill that could have saved many lives when the water washed people away.

Preparing communities in this way has many additional benefits. If people are trained in first aid to prepare them for the aftermath of a disaster, they will have a skill that enables them to help people day-to-day, especially in areas with a lack of healthcare. If local masons and labourers are taught how to build earthquake-resistant housing or schools, the skills remain permanently within the community.

India: flood shelters and task forces

CASA is one of Christian Aid's key partners in India. It provides emergency relief and carries out long-term rehabilitation programmes in response to major disasters. It has helped prepare communities for disasters in many states in India, including flood-prone west Bengal.

In 2000, monsoon floods there killed 1,226 people, and damaged two million homes and a million hectares of agricultural land. In response, CASA, supported by Christian Aid, decided to build 22 flood shelters. Many shelters are positioned next to schools, providing extra classrooms, some are used as makeshift health clinics and most are also used for village council meetings. The community maintains the structures.

Water outlets were built in 110 villages above the flood level and in the first floor of each shelter to provide uncontaminated water during a flood. CASA also carried out disaster

preparedness training with local communities. Taskforces were formed in each catchment area, consisting of 25 members selected from the community. They were divided into groups and given training in:

- first aid
- shelter management
- early warning
- coordinating relief efforts
- search and rescue.

These trained volunteers then provide training to other villagers. In October 2005, in floods in different areas of west Bengal, CASA-trained workers were able to warn their villages, monitor the weather forecast regularly and prepare vulnerable households for evacuation.

The disaster that didn't happen: Bangladesh

In May 1997 a ferocious cyclone hit the Cox's Bazaar region of southeast Bangladesh. It brought winds of 150 miles per hour and lasted for more than ten hours, leaving one and a half million people homeless. The cyclone was stronger than one in 1991 that killed 140,000 people, but only 100 died. The low death toll was partly because the cyclone struck during daylight and at low-tide. But new cyclone shelters and the fact that people were trained to alert their community of the impending danger were crucial factors in saving lives.

The Christian Commission for Bangladesh (CCDB), Gonoshasthaya Kendra and other Christian Aid-supported organisations built a number of these two-storey shelters, which also double as community centres or schools. When the cyclone struck they provided the whole community with refuge. The cyclone hit the low-lying island of Moheshkhali particularly hard. Most of the villagers were left homeless, but the shelters meant that everyone survived.

Christian Aid partners also built embankments to protect people against cyclones and flooding. Local organisations are employing villagers in cash-for-work programmes, which involve building platforms of earth that allow homes, school playgrounds and other communal areas to be built at a higher level, or so that large groups of people can take refuge from flood waters.

The people living around the Bay of Bengal are used to cyclones, but climate change is likely to increase both the frequency and the intensity of cyclones in the region.

Government action

In a speech on 15 December 2004, UK international development secretary Hilary Benn proposed earmarking ten per cent of all of DFID's humanitarian spending for disaster risk reduction.

Christian Aid supports this initiative and we encourage the UK government to honour its commit to this ten per cent target in its humanitarian spending. We are delighted to have received a £2.5 million grant from DFID as part of a five-year, £3 million project to

incorporate disaster risk reduction work into programmes run by 53 of our partners in 12 countries.

But this is just a fraction of what needs to be done. Governments around the world must recognise that they have a central role to play in making disaster risk reduction part of their national development programmes, particularly as they usually take responsibility for bigger infrastructure projects such as schools and hospitals.

They must provide appropriate resources, coordinate national efforts and ensure laws that aim to reduce risk, such as building codes, are enforced. Governments also need to make disaster risk analysis an integral part of the development process, so that informed decisions can be made about how and where to build and invest.

At the Kobe conference on disaster reduction in January 2005, the UN and other delegates adopted the Hyogo framework for action, which calls for a global commitment by national governments to:

- ensure that risk reduction is a priority locally and nationally
- identify and monitor disaster risks and strengthen early warning systems
- build a culture of safety and resilience
- strengthen disaster preparedness.

Recommendations

When disaster strikes, there is a moral duty to respond, spurred on by media and public interest. But there is no similar concern to look beyond the immediate crisis – to understand the real causes of disaster and take preventative action. The lesson of this year of catastrophe, from the tsunami to the Pakistan earthquake, is that we can ensure that natural disasters do not have these unnatural, and terrible, consequences.

- The new Indian Ocean tsunami warning system must be coupled with an effective method of alerting communities and teaching them what to do when a tsunami strikes.
- National governments must recognise that they have a central role to play in making disaster risk reduction part of their development programmes.
- National governments should support the implementation of the Hyogo framework, agreed at the World Conference on Disaster Reduction in Japan in January 2005, which calls for a global commitment to speed up disaster response times, set guidelines for disaster prevention and develop people-centred early warning systems.
- As the UK government and the UN have suggested, western governments need to focus on and commit resources to help high-risk countries prepare for disasters and mitigate their impact before they strike, rather than responding to their aftermath. They also need to look seriously at the UK government's proposal of developing more flexible funding arrangements for disaster risk reduction.
- The UK government should continue the positive steps it has taken, and increase its commitment of funds to help vulnerable countries prepare for disasters and raise the profile of disaster risk reduction internationally. It should also use its influential position to encourage other donors, institutions and governments to follow suit.
- Institutions such as the World Bank and International Monetary Fund, and international donors must ensure that the development and humanitarian programmes they fund do not increase people's vulnerability to disaster and actively attempt to incorporate risk reduction.

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Endnotes

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