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Executive Summary

The anatomy of a silent crisis

Science is now unequivocal as to the reality of climate change. Human activities, including in particular emissions of greenhouse gases like carbon dioxide are recognized as its principle cause. This report clearly shows that climate change is already causing widespread devastation and suffering around the planet today. Furthermore, even if the international community is able to contain climate change, over the next decades human society must prepare for more severe climate change and more dangerous human impacts.

This report documents the full impact of climate change on human society worldwide today. It covers in specific detail the most critical areas of the global impact of climate change, namely on food, health, poverty, water, human displacement, and security. The third section of this report highlights the massive socio-economic implications of those impacts, in particular, that worst affected are the world's poorest groups, who cannot be held responsible for the problem. The final section examines how sustainable development and the Millennium Development Goals are in serious danger, the pressures this will exert on humanitarian assistance, and the great need to integrate efforts in adapting to climate change. Based on verified scientific information, established models, and, where needed, on the best available estimates, this report represents the most plausible narrative of the human impact of climate change. It reports in a comprehensive manner the adverse effects people already suffer today due to climate change within a single volume, encompassing the full spectrum of the most important impacts evidenced to date.

The findings of report indicate that every year climate change leaves over 300,000 people dead, 325 million people seriously affected, and economic losses of US\$125 billion. 4 billion people are vulnerable, and 500 million people are at extreme risk. These figures represent averages based on projected trends over many years and carry a significant margin of error. The real numbers could be lower or higher. The different figures are each explained in more detail and in context in the relevant sections of the report. Detailed information describing how these figures have been calculated is also included in the respective sections and in the end matter of the report.

These already alarming figures may prove too conservative. Weather-related disasters alone cause significant economic losses. Over the past five years this toll has gone as high as \$230 billion, with several

years around a \$100 billion and single year around \$50 billion. Such disasters have increased in frequency and severity over the past 30 years in part due to climate change. Over and above these cost are impacts on health, water supply and other shocks not taken into account. Some would say that the worst years are not representative and they may not be. But scientists expect that years like these will be repeated more often in the near future.

Climate change through the human lens

Climate change already has a severe human impact today, but it is a silent crisis – it is a neglected area of research as the climate change debate has been heavily focused on physical effects in the long-term. This human impact report: climate change, therefore, breaks new ground. It focuses on human impact rather than physical consequences. It looks at the increasingly negative consequences that people around the world face as a result of a changing climate. Rather than focusing on environmental events in 50-100 years, the report takes a unique social angle. It seeks to highlight the magnitude of the crisis at hand in the hope to steer the debate towards urgent action to overcome this challenge and reduce the suffering it causes.

The human impact of climate change is happening right now - it requires urgent attention. Events like weather-related disasters, desertification and rising sea levels, exacerbated by climate change, affect individuals and communities around the world. They bring hunger, disease, poverty, and lost livelihoods - reducing economic growth and posing a threat to social and, even, political stability. Many people are not resilient to extreme weather patterns and climate variability. They are unable to protect their families, livelihoods and food supply from negative impacts of seasonal rainfall leading to floods or water scarcity during extended droughts. Climate change is multiplying these risks.

Today, we are at a critical juncture – just months prior to the Copenhagen summit where negotiations for a post-2012 climate agreement must be finalized. Negotiators cannot afford to ignore the current impact of climate change on human society. The responsibility of nations in Copenhagen is not only to contain a serious future threat, but also to address a major contemporary crisis. The urgency is all the more apparent since experts are constantly correcting their own predictions about climate change, with the result that climate change is now considered to be occurring more rapidly than even the most aggressive models recently suggested. The unsettling anatomy of the human impact of climate change cannot be ignored at the negotiating tables.

Climate change is a multiplier of human impacts and risks

Climate change is already seriously affecting hundreds of millions of people today and in the next twenty years those affected will likely more than double – making it the greatest emerging humanitarian challenge of our time. Those seriously affected are in need of immediate assistance either following a weather-related disaster, or because livelihoods have been severely compromised by climate change. The number of those severely affected by climate change is more than ten times greater than for instance those injured in traffic accidents each year, and more than the global annual number of new malaria cases. Within the next 20 years, one in ten of the world's present population could be directly and seriously affected.

Already today, hundreds of thousands of lives are lost every year due to climate change. This will rise to roughly half a million in 20 years.

Over nine in ten deaths are related to gradual environmental

degradation due to climate change – principally malnutrition, diarrhoea, malaria, with the remaining deaths being linked to weather-related disasters brought about by climate change.

Economic losses due to climate change currently amount to more than one hundred billion US dollars per year, which is more than the individual national GDPs of three quarters of the world's countries. This figure constitutes more than the total of all Official Development Assistance in a given year. Already today, over half a billion people are at extreme risk to the impacts of climate change, and six in ten people are vulnerable to climate change in a physical and socio-economic sense. The majority of the world's population does not have the capacity to cope with the impact of climate change without suffering a potentially irreversible loss of wellbeing or risk of loss of life. The populations most gravely and immediately at risk live in some of the poorest areas that are also highly prone to climate change – in particular, the semi-arid dry land belt countries from the Sahara to the Middle East and Central Asia, as well as sub-Saharan Africa, South Asian waterways and Small Island Developing States.

A question of justice

It is a grave global justice concern that those who suffer most from climate change have done the least to cause it. Developing countries bear over nine-tenths of the climate change burden: 98% of the seriously affected and 99% of all deaths from weather-related disasters, along with over 90% of the total economic losses. The 50 Least Developed Countries contribute less than 1% of global carbon emissions. Climate change exacerbates existing inequalities faced by vulnerable groups particularly women, children and the elderly. The consequences of climate change and poverty are not distributed uniformly within communities. Individual and social factors determine vulnerability and capacity to adapt to the effects of climate change. Women account for two-thirds of the world's poor and comprise about seven in ten agricultural workers. Women and children are disproportionately represented among people displaced by extreme weather events and other climate shocks.

The poorest are hardest hit, but the human impact of climate change is a global issue. Developed nations are also seriously affected, and increasingly so. The human impact of recent heat waves, floods, storms and forest fires in rich countries have been alarming. Australia is perhaps the developed nation most vulnerable to the direct impacts of climate change and also to the indirect impact from neighbouring countries that are stressed by climate change.

The time to act is now

Climate change threatens sustainable development and all eight Millennium Development Goals. The international community agreed at the beginning of the new millennium to eradicate extreme hunger and poverty by 2015. Yet, today, climate change is already responsible for forcing some fifty million additional people to go hungry and driving over ten million additional people into extreme poverty. Between one-fifth and one-third of Official Development Assistance is in climate sensitive sectors and thereby highly exposed to climate risks.

To avert the worst outcomes of climate change, adaptation efforts need to be scaled up by a factor of more than 100 in developing countries. The only way to reduce the present human impact is through adaptation. But funding for adaptation in developing countries is not even one percent of what is needed. The multilateral funds that have been pledged for climate change adaptation funding currently amount to under half a billion US dollars.

Despite the lack of funding, some cases of successful adaptation do provide a glimmer of hope. Bangladesh is one such an example. Cyclone Sidr, which struck Bangladesh in 2007, demonstrates how well adaptation and prevention efforts can pay off. Disaster preparation measures, such as early warning systems and storm-proof houses, minimized damage and destruction. Cyclone Sidr's still considerable death toll of 3.400, and economic damages of \$ 1.6 billion, nevertheless compare favourably to the similar scale cyclone Nargis, which hit Myanmar in 2008, resulting in close to 150.000 deaths and economic losses of around \$4 billion. Solutions do also exist for reducing greenhouse gas emissions, some even with multiple benefits. For instance, black carbon from soot, released by staple energy sources in poor communities, is likely causing as much as 18% of warming. The provision of affordable alternative cooking stoves to the poor can, therefore, have both positive health results, since smoke is eliminated and an immediate impact on reducing emissions, since soot only remains in the atmosphere for a few weeks.

Integrating strategies between adaptation, mitigation, development and disaster risk reduction can and must be mutually reinforcing. Climate change adaptation, mitigation, humanitarian assistance and development aid underpin each other, but are supported by different sets of institutions, knowledge centres, policy frameworks and funding mechanisms. These policies are essential to combat the human impact of climate change, but their links to one another have received inadequate attention.

A key conclusion of this report is that the global society must work together if humanity is to overcome this shared challenge: nations have to realize their common interest at Copenhagen, acting decisively with one voice; humanitarian and development actors of all kinds have to pool resources, expertise and efforts in order to deal with the rapidly expanding challenges brought by climate change; and in general, people, businesses, and communities everywhere should become engaged and promote steps to tackle climate change and end the suffering it causes.

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