



a post-2015 world fit for children

unicef 

SUSTAINABLE DEVELOPMENT STARTS AND ENDS WITH SAFE, HEALTHY AND WELL-EDUCATED CHILDREN

UNICEF, May 2013

We are entering a decisive phase to accelerate efforts and honor the Millennium Promise embedded in the MDGs. But while this promise is time bound, our collective responsibility does not expire. After 2015, newborns and growing children will have at least the same needs in terms of health, learning, good nutrition, and protection as the “MDG generation” – and much will remain to be done to meet our responsibilities to give them all a fair opportunity to live full, healthy lives, no matter where they live or what barriers they face.

*Children’s rights and well-being should remain at the centre of the post-2015 agenda. Investment in children is a fundamental means to eradicate poverty, boost shared prosperity, and enhance inter-generational equity. It is also essential for strengthening their ability to reach their potential as productive, engaged, and capable citizens, contributing fully to their families and societies. **Sustainable development starts and ends with safe, healthy and well-educated children.***

-- Anthony Lake, UNICEF Executive Director, April 2013

About this paper¹: A call to action to put children at the centre of sustainable development

On the surface, it is a common-sense argument. *Of course* the children of today and tomorrow are central to sustainable development and the future of our planet and all its inhabitants. All too often in practice, however, the issues of children and young people are seen only as a “social” issue – while their health, safety, education and rights *are also* inextricably linked to ensuring economic growth and shared prosperity, a protected natural environment and more stable, safer societies. Overlooking their role is to the peril of us all, the communities in which we live and to the planet.

Children and young people are both shapers of and shaped by the world around them. When a child is not healthy, has compromised brain functionality due to chronic poor nutrition, does not receive a quality education, does not feel safe in his or her home, school or community, will that child be able to fulfil their potential and responsibilities as a parent, an employee or entrepreneur, a consumer, a citizen? In many cases, the answer is “no” and that denies the individual child his or her rights, *but also* deprives the entire human family of the intellectual, social and moral benefits that derive from the fulfilment of these rights.²

In this paper, we explore the dynamic and dramatic interplay between the realization of children’s rights and sustainable development. The evidence presented makes a powerful case for why and how these issues must be directly addressed in the discussions towards a Post-2015 Development Agenda and the eventual framework that will emerge. *It is a call to action for decision-makers to invest in children’s rights and well-being as an integral means to achieving sustainable development.*

This paper complements UNICEF’s 10 Key Messages on the Post-2015 Development Agenda³ and is organized in three main sections:

The first section sets **the context**: how and why children are central to the concept, principles and future progress of sustainable development – and why sustainable development, in turn, is crucial for children.

The second section introduces **three key messages** for the attention of decision-makers on the Post-2015 Development Agenda on the centrality of children and young people to sustainable development:

- 1. Sustainable development starts with safe, healthy and well-educated children;**
- 2. Safe and sustainable societies are, in turn, essential for children; and**
- 3. Children’s voices, choices and participation are critical for the sustainable future we want.**

The third and final section “**makes the case**” to support these key messages by providing powerful supporting evidence and recommendations on how to integrate consideration of children’s rights and well-being into the Post-2015 Development Agenda.

¹ UNICEF acknowledges with thanks the contributions of Joy Guillemot in the development of this paper.

² Adapted from comment to the Post-2015 Global Thematic Consultation on Addressing Inequalities: E-Discussion on Inequalities and Minorities (2013), <http://www.worldwewant2015.org/node/287098>

³ UNICEF (2013) Towards a Post-2015 World Fit for Children: UNICEF’s Key Messages on the Post-2015 Development Agenda, http://www.unicef.org/parmo/files/Post_2015_UNICEF_Key_Messages.pdf

PART 1: THE CONTEXT

Today's development challenges and why sustainable development is essential for and dependent on the children of today and future generations

The 1990s and the era of the Millennium Development Goals (MDGs) – the dozen years since the adoption of the Millennium Declaration by the UN General Assembly – have seen unprecedented human progress:

aggregate reductions in household poverty, more children in school than ever before, more rapid reductions in child death rates, rising access to clean drinking water. However, while many parts of the world are experiencing progress, this is coming with a high cost: increasing gaps between rich and poor; widespread toxic pollution and unplanned urbanization; far-reaching social impacts of violence and conflict; excessive stress on vital ecosystems; and, despite the progress on the MDGs, a continuing lack of secure access to life-sustaining food, water, clean air and safety for a high and in some regions increasing number of people. Among all those affected, children are likely to be the most vulnerable and at risk.

Sustainable Development – the core concept for the Post-2015 Development Agenda – provides an *integrated response* to the complex environmental, societal, economic and governance challenges that directly and disproportionately affect children. **With appropriate focus, investment and innovation, the Post-2015 Development Agenda now under formulation presents an unprecedented opportunity to create a World Fit for All Children.**

A widely accepted definition of sustainable development comes from 'Our Common Future', the 1987 landmark report of the Brundtland Commission. This states, "*Sustainable development is development that meets the needs of the present without*

Summary of the three Key Messages

1. **Sustainable development starts with safe, healthy and well-educated children.**
2. **Safe and sustainable societies are, in turn, essential for children.**
3. **Children's voices, choices and participation are critical for the sustainable future we want.**

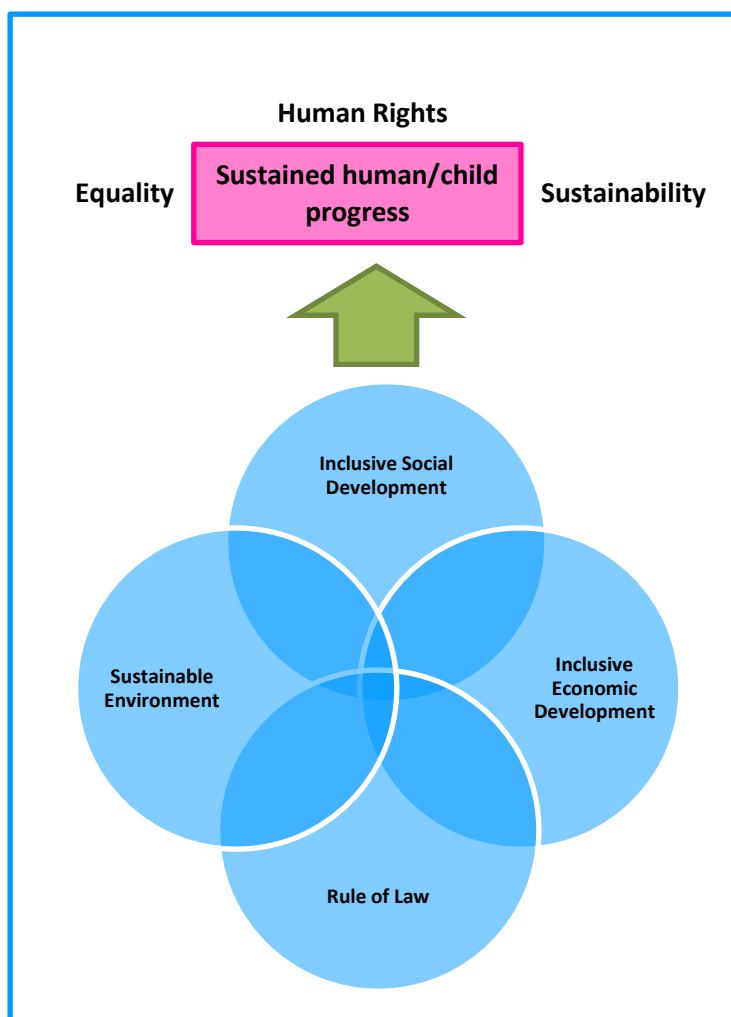


Figure 1: Sustainable Development Framework. Adapted from the UN Task Team Report on the Post-2015 UN Development Agenda, 2012

compromising the ability of future generations to meet their own needs.”¹ Despite some perceptions that associate sustainable development mainly with the natural environment, it focuses on ways of meeting peoples’ social and economic needs within natural resource limits - so that human development can be both sustainable and sustained. This means the continued advance of poverty eradication, human rights, and equity while also realizing more sustainable patterns of consumption and production, stabilizing climatic forces, and sustainably managing our common natural resource base.

Sustainable development must balance the scales of equity on all fronts to break cycles of poverty and ensure that the children of today and tomorrow are able to have and inherit a liveable, safe world.

This requires adults today making development decisions that are good for both people and the planet; which avoid economic or social crises, such as those arising from gross inequalities and injustice; and which avert irreversible environmental damages that our children and their children will inherit. Focusing on the needs, capabilities and rights of children and young people is a crucial part of making these good, sustainable development choices – and represents an investment in everyone’s future.

As shown in Figure 1, sustainable development involves progress both within and across four integrally connected dimensions: *inclusive social development, inclusive economic development, environmental sustainability*; and underpinning all of these, *the rule of law*. Each of these dimensions has specific influences and major impacts on children. At the same time, children are central to the progress and contributions of each of these four dimensions.

As indicated by the UN Post-2015 Task Team’s 2012 report, *Realizing the Future We Want for All*, sustainable human progress will also be determined by the degree to which the principles of **human rights** (including child rights), **equality** and **sustainability** are upheld throughout all these efforts. Alternatively, without sustainable development that sets goals and pursues targets with children’s needs, rights and best interests in mind, development progress is likely to be inequitable and slowed for everyone. Both children and their societies stand to suffer.

Human Rights, including child rights

Children represent approximately one-third of the world’s population and have the right to survive, live and grow up in a decent environment, with all that implies: attending school, enjoying good health and nutrition, and living and growing in safety and security. This is not only a moral assertion of the human rights inherent to children. It is also a legal commitment assumed by 193 governments through the UN Convention on the Rights of the Child (CRC) – the world’s most widely ratified human rights treaty and the foundation for the obligations of governments and their international partners to children - and their development efforts with and for them.

Children’s rights depend on social progress that includes all sections of societies, supported by rising shared prosperity. However, this progress, and human rights, are increasingly threatened by current patterns of unsustainable and inequitable development that drive environmental degradation, disasters, climate instability, conflict and economic and social crises. The CRC is an important instrument for sustainable development. It recognizes the importance of the natural environment for the well-being of children (Preamble), while requiring State Parties to take account of the risks of environmental pollution (Article 24), to educate children to respect nature (Article 29), and to enable children to participate in decisions which affect them (Article 12). In decision-making, Governments are obliged to consider the best interests of children.

Equality

By definition, sustainable development is about both *inter-generational* and *intra-generational* equity². It involves fulfilling our collective responsibilities to ensure a safer, cleaner, healthier, and more inclusive world for both today's children, and for their children. The UN Resolution on the outcomes of Rio+20, *The Future We Want*, states, "*We will also consider the need for promoting intergenerational solidarity for the achievement of sustainable development, taking into account the needs of future generations*"³.

This starts with addressing the widespread inequalities and failures of protection that inhibit the ability of girls and boys to thrive and which hold back development progress. Deprivations and shocks in childhood very often persist into adulthood, from where they are passed on to future generations. On the other hand, investing in children's rights to health, nutrition, education and protection – starting with very young children and the most disadvantaged families - leads to positive growth and social cohesion that can be inherited by generations to come. The bottom line is that *safe and healthy child development, achieved with equity, provides the very foundation for sustained economic and social development today and tomorrow*.

Protecting and investing in the rights of the most vulnerable and disadvantaged children, and their families, should thus be placed at the centre of sustainable development. To broaden access to jobs, land, livelihoods, technology and other resources that underpin equitable progress, it is critical to remove barriers to the growth of capacities among children and to the participation of adults who face discrimination and exclusion, and legal guarantees and rule of law need to be available to all and applied with justice and fairness, to protect those who are most at risk and likely to be marginalized.

Injustice occurs both when people are denied adequate access to essential economic and social goods and services, and also when they are deprived of the benefits of basic natural resources such as food and water or when they suffer from exposure to hazardous environmental conditions, such as polluted air, soil, or water. The most socially and economically marginalized groups are also those most likely to lack access to essential natural resources and to be exposed to toxic and dangerous conditions.⁴ Their demands for protection from industrial and urban dangers or from the consequences of rural neglect

The mandate exists -- it is an issue of effective implementation...

Sustainable development is not new, nor is its importance to children. Child protection and participation as part of a sustainable future is already guided by an extensive range of international conventions, treaties, and other legal instruments, many with direct linkages to the Convention on the Rights of the Child (CRC).

Multilateral environmental agreements such as the Basel, Rotterdam and Stockholm Conventions have been adopted to ensure a healthy environment and significantly protect children from exposure to chemicals and waste. The three Rio Conventions—on *Biodiversity*, *Climate Change* and *Desertification* — are foundations of sustainable development. A clear roadmap, principles, and guidance for creating a sustainable future are laid out in specific declarations, including the 1992 *Declaration of Rio on Environment and Development and Agenda 21: Programme of Action for Sustainable Development*; the 2002 Johannesburg Plan of Action; and 2012 Rio + 20 outcomes. These proposals have been reaffirmed in UN General Assembly resolutions, such as *The Future We Want*, *The Human Right to Water and Sanitation*, and a *World Fit for Children*.

These blueprints for child-centred sustainable development policies thus already exist, in close alignment with the CRC. The main challenge for the world after 2015 will be their effective implementation.

often remain unheard or ignored. The social, economic and environmental dimensions of justice are deeply intertwined.

Sustainability

Environmental sustainability is a pathway to future prosperity and to social and economic stability. Conserving and responsibly using our natural resources is not an optional luxury if future generations worldwide are to be healthy, have equitable access to productive forests, oceans, and soils; experience a stable climate and manageable disaster risk; and enjoy safe products, water, air and coastlines. Both high- and low-income countries must together find ways to create a sustainable *World Fit for All Children*, where young people thrive and are safe from dangers.

Information, technology and innovation can help us conserve and efficiently use our natural resources. Cities and urban communities can manage food, water, transport, energy and waste in ways that create safe and healthy conditions for all children. Good and sustainable environmental management is especially critical for indigenous peoples, children with disabilities and those communities which depend most directly on their natural environments for food, medicine and livelihoods.

It is increasingly recognized that a sustainable world will require a global shift in values, awareness and practices in order to change our increasingly unsustainable patterns of consumption and production. To achieve this, *children and young people will themselves need to be educated and mobilized as catalytic forces for sustainable development*. Meaningful partnerships with children and young people can create capacities, raise wider awareness and drive behavioural change for sustainable consumption - while governments and the private sector adopt standards for sustainable production, generate jobs and invest in innovations and skills development. Today's children will be central to maintaining a viable planet for the future.

Children's needs and rights are thus interdependent with sustainable development. To achieve the greatest impact on the lives of children, the forthcoming Sustainable Development Goals (SDG) framework should include goals and targets that purposefully consider children's rights and needs within each of the dimensions of economic development, social development and environmental sustainability, whilst building on their synergies and adequately addressing the fair and inclusive application of the rule of law.

Only sustainable development which aims to support the "whole child" - by simultaneously promoting and safeguarding their emotional, social, physical and cognitive development and their basic livelihood needs - can enable true development progress. Each dimension of the Post-2015 Development Agenda should address the rights of all children everywhere, to survival, full development, safety and a healthy environment, while considering how to optimize child and youth participation and contributions, and how to sustain these rights for generations. Children are the common factor and foundation across all dimensions of sustainable development.

PART 2: THE MESSAGES

Three key messages for decision-makers on why children and sustainable development matter centrally for each other

The relationship between children and sustainable development is symbiotic. Progress in sustainable development underpins child rights and well-being, and conversely, child rights and well-being underpin

lasting and equitable development progress. Finding the balance to achieve progress for all in today's world and for future generations depends upon three key propositions:

1. Sustainable Development starts with safe, healthy and well-educated children

Children are at the heart of sustainable development. Safe, healthy and well-educated children are the foundations of a thriving and equitable society, sustainable growth and proper management of natural resources. Societies can only develop in a sustainable manner if the basic needs and rights of children, particularly the poorest and most vulnerable, are met. Evidence shows that investing in children yields high and long-lasting returns, not only for individuals and families but for entire societies and for the generations to come.

Goals addressing children's rights, equity and the MDGs "unfinished and continuing business" must remain at the core of the development agenda, for it to be truly sustainable and sustained.

2. Safe and sustainable societies are, in turn, essential for children

A sustainable society is one where every child -- in both the current and future generations and from his or her earliest years -- has access to care, nutritious food and clean water and a safe environment in which to grow, participate and learn -- free of violence, pollution and the risks of disaster. Childhood is a unique and fragile period of physical, mental and emotional development. Children are particularly vulnerable to shocks and stress including violence and trauma, conflict, disasters, environmental pollution, climate instability and economic crisis. Violations and neglect of children's rights have life-long, irreversible and trans-generational consequences. Sustainable development which considers children's needs and the risks they face can strengthen resilience and promote the ability of children to contribute to their societies in the future. The well-being of children serves as both a maker and a marker of progress in sustainable development.

The collective responsibility to ensure all children's rights to survive and grow, and to reduce the risks to children that arise from economic, social and environmental degradation, conflict and disasters, should be reflected in the Post-2015 Development Agenda. Child-centred metrics of well-being should be prominent in the monitoring and assessment of our global progress on sustainable development.

3. Children's voices, choices and participation are critical for the sustainable future we want

Children are not only the inheritors of the planet. They also actively shape it in the present. Children and young people should be recognized as critical partners for sustainable change. Experience has shown that young people who have the education, skills and opportunities to participate and innovate become effective advocates, problem-solvers and agents for positive change. Inclusive and people-centred development means investing in the well-being and empowerment of children and young people so they can grow into responsible, capable and skilled citizens, and effective guardians of a sustainable world.

The participation of children and young people is both a human right and vital to achieving equitable, sustained development. Children's rights to participation and justice, and their protection from violence and discrimination should be reflected in specific targets, under a Rule of Law or similar umbrella. These targets should prioritize learning opportunities and systems that provide quality education, life skills - including knowledge about the environment - and avenues for young peoples' participation in local action and wider decision-making for sustainable societies.

PART 3: MAKING THE CASE

Evidence, examples and recommendations in support of key messages

This section uses a selection of examples and supporting evidence to demonstrate why the three key messages on children are so important to sustainable development.

Evidence and Examples for Key Message 1:

Sustainable development starts with safe, healthy and well-educated children

Early life conditions of children have persistent and profound impacts later in life, with a broad range of implications not only for that individual child but for societies' overall development.⁵ Safe, healthy and well-educated girls and boys provide an enabling foundation for individuals, families, and society as a whole to thrive. Evidence shows that lack of investment in basic child rights such as nutrition, health, and education, particularly of the most disenfranchised, can lock individuals and families into cycles of poverty for generations, and can be a barrier to future social and economic progress. Sustainable development needs active and consistent investment in core child survival, development, and protection to maintain MDG progress and pursue the unfinished agenda. The example cases of *investing in early childhood development; education; protection from violence; and pro-equity development*, show why sustainable development starts with taking care of children and young people who represent 30% of the global population and the foundation of the future.

INVEST IN NUTRITION, HEALTH, WATER AND SANITATION IN EARLY CHILDHOOD: *Sustainable development starts in early childhood. Investment in adequate maternal and child health, nutrition and adequate water and sanitation for all children provides high paybacks for society by fulfilling rights and raising the ceiling of development potential.*

Today, roughly 165 million children aged under 5 are suffering from stunting, an irreversible outcome of chronic nutritional deficiency during the first thousand days of a child's life. The causes of stunting are diverse, but are always deeply enmeshed with local environmental, economic and social conditions with domino effects that lock families in cycles of poverty. Stunting is not simply a matter of inadequate food intake -- strong correlations exist between stunting and poor water and sanitation in both rural and urban environments. Poor sanitation leads to frequent episodes of diarrhoeal disease in children, resulting in reduced nutritional absorption which contributes to stunting, cognitive setbacks, and lower school performance and economic earnings later in life.^{6,7,8}

The chain of events starting early in life is significant because stunting causes permanent damage to a child's brain and body development. Stunted children are inches shorter than they could have been with proper nutrition, and have weaker immune systems that make them more vulnerable to disease. Brain development is set back and translates to a loss of between two to three years of learning. Evidence is showing that when such stunted children enter the workforce, their diminished physical and cognitive development can reduce their earning capacity by as much as 22%.⁹ The cumulative effect of cohorts of stunted children causes measurable GDP losses to countries and presents real limitations for national development. For example, in India, productivity losses caused by stunting to individuals are estimated at more than 10% of lifetime earnings, and GDP loss to undernutrition runs as high as 3–4%.¹⁰ The scale of global stunting has major implications for future development, with dozens of countries reporting up to 40% of children suffering from stunting, and six countries exceeding 50%.¹¹ Addressing childhood stunting can help break the cycle of poverty and increase a country's GDP by at least 2-3% annually, recouping billions of dollars in lost productivity and avoidable healthcare spending.

INVEST IN EDUCATION: *Investment in quality education, particularly for girls, generates immediate and intergenerational paybacks across all dimensions of sustainable development.*

Similarly, the development impacts of education, particularly girls' education, are shown to have multiple benefits for individuals, families, communities and society as a whole. The benefits of education are both immediate and intergenerational, and span the economic, social and even environmental dimensions of development. For example, at the individual level, an educated girl is likely to increase her personal earnings potential, be more likely to delay marriage and pregnancy and be more likely to access health support, leading to lower rates of maternal mortality.¹² At the family and community level, investments in girls' education can reduce the incidence of poverty, and evidence shows that more educated girls have fewer, healthier and more educated children. Additionally, recent studies suggest that countries with the greatest improvements in female education suffer far fewer losses from extreme weather events than less-progressive countries with similar income and weather conditions.¹³

At the wider societal level, rates of child mortality are strongly correlated with a woman's education level. It is estimated that over 50% of the decline in child mortality over the past 40 years is associated with increased educational attainment of women of reproductive age.¹⁴ Experience and evidence shows that educating girls leads to improvements in national economic growth, improved health, an increase in female leaders and lower levels of population growth and the subsequent reduction of population pressures on the environment. Some have even estimated that investments in female education could be a more cost-effective carbon emissions abatement strategy than more direct strategies, due to the strong impact education has to lower fertility rates and population.¹⁵

PROTECTION FROM VIOLENCE: *Children have the right to live in safety – free from fear as well as free from want. Not only are children uniquely vulnerable to violence and abuse – but these violations of their rights can have life-long irreversible and intergenerational impacts.*

Direct violence against children in all its forms, and a child's exposure to various forms of conflict and abuse, can be devastating and detrimental with lifelong and transgenerational repercussions. Children affected by violence experience a range of acute and long-term damages to their physical and mental health.^{16,17,18,19} These range from brain injury and physical trauma to depression, developmental delays, drug abuse, and criminal, violent and other risk-taking behaviours. The consequences also include economic disadvantages from lost productivity, disability, decreased quality of life, along with various costs to society.²⁰ Children and young people who witness violence experience higher rates of Post-Traumatic Stress Disorder (PTSD), depression, distress, aggression, and externalizing behaviour disturbances.^{21,22,23,24,25} Studies from around the world suggest that the mental and social ramifications of experiencing conflict and violence can last decades^{26,27,28} and can have transgenerational impacts on the families and children of the victims of violence.²⁹

PRO-EQUITY DEVELOPMENT: *Investing in children's rights such as nutrition, health and education is a critical and cost-effective pathway to longer-term inclusive economic and social development. Closing income gaps and reducing social inequalities can lead to more sustainable societies.*

Growing economic disparities are identified in multiple prominent reports as one of the greatest risks for the future development and stability.^{30,31} Economic research shows that more equal societies tend to grow for longer periods of time, and conversely, that high inequality breeds volatility.³² Evidence further shows when countries reduce disparities, economic growth is facilitated and is less likely to lead to cycles of debt accumulation that later cause severe fiscal contraction. This is supported by a recent

UNICEF study of 141 countries that found, on aggregate, countries that saw levels of inequality increase experienced slower annual GDP/capita growth.³³

Critically, sound research is telling us the most effective way to reduce inequalities is to focus on the early years of life. A group of over 65 researchers and experts recently found that the most cost-effective development investments include a range of early childhood development interventions in nutrition, immunization, malaria and deworming. Each of these is known to make a significant difference for children and to strengthen the foundations for both equitable and dynamic societal and economic development.³⁴ For example, data from 73 countries suggest that increasing preschool in all low- and middle-income countries would lead to substantial gains in schooling. The subsequent benefits from increased future earnings would range from 11 to 34 billion dollars with a benefit-to-cost ratio ranging from 6.4 to 17.6, depending on the percentage of children attending preschool (25% or 50%).³⁵ These are conservative estimates that do not account for other early childhood development interventions or advantages of increasing childhood development, such as reduced crime or improved parenting.

Evidence and Examples for Key Message 2:

Safe and sustainable societies are, in turn, essential for children

Adequate, equitable and sustainable development endows children and young people with the social, economic, and environmental determinants needed for well-being and to develop to their full potential. Keeping children safe and healthy is proven to make economic sense and is key to sustainable and sustained development potential. The right of all children to a healthy environment is also recognized by the CRC, in over 90 national constitutions, and many regional human rights and environmental agreements.³⁶ Assurance of this right by adults today, and in the future, is exceptionally critical for children, because their dynamic developmental physiology and immature defence systems are uniquely susceptible to physical and psychological trauma, nutritional deprivation, infectious agents and environmental contaminants. Child-centred sustainable development ensures children live in safe, nourishing and healthy environments, with supportive and stable social and economic conditions that enhance the ability of all children and families to thrive in a rapidly changing world. The following examples show that sustainable development which provides *peace and security*; *access to water*; and *healthy physical environments*, can prevent harm and promote child survival, development and growth to their full potential. These cases clearly show how child well-being is a barometer of safe, healthy, and sustainable societies; serving as a "marker" that indicates either progress or failures in sustainable development.

PEACE AND SECURITY: *Poverty levels and health conditions in fragile states -- when compared to other developing countries -- attest to the benefits of peace and security as an enabler of social and economic stability and sustainable development. Children have the most to lose – and gain – from the actions of adult decision-makers towards peace and security.*

Children greatly benefit from societies free of conflict, violence and social and economic crises. In societies with severe development challenges -- often fragile states without peace, security and safety -- the negative consequences for children are dramatic. Today, 1.5 billion people live in conflict-affected and fragile states.³⁷ Countries affected by violence are home to over half of the world's poor, and poverty is measured to be 20 % higher in countries affected by repeated cycles of violence.³⁸ These countries subsequently remain the furthest away from and least likely to achieve the Millennium Development Goals (MDGs).³⁹ The entire population living within a fragile state suffers, but particularly children. For example, the child mortality rate in low- and middle-income countries is 56 per 1,000 live births while, on some estimates, in low-income fragile states child mortality is nearly 150% higher—138

per 1000.⁴⁰ Although fragile states represent only 14% of the world population, half of the children who die before age five live in a fragile state as do a third of people living with HIV/AIDS. One third of global maternal deaths occur in low-income fragile states.⁴¹ Malaria death rates are also 13 times greater in fragile states than in other developing countries.⁴²

ACCESS TO WATER: *Meeting the unmet needs for drinking water, and maintaining water access for growing future populations is the quintessential challenge for sustainable development. It requires international cooperation and integrated decision-making to reduce waste and pollution as well as shift to sustainable production methods and consumption patterns. Again, children – and future generations – have the most at stake from the priority given to guaranteeing safe and secure access to water.*

Children depend on sustainable development to ensure adequate and accessible water. Water is in fact, the lynchpin of sustainable development and the key ingredient needed by society, the economy and the environment for sustained growth. Access to water is recognized as a Human Right because it is essential to stay alive and maintain health.⁴³ Even with notable progress to improve access over the past several years, 11% of the global population today -- almost half of whom are children -- are still without improved drinking-water sources,⁴⁴ despite the fact no single intervention is more likely to reduce global poverty than the provision of safe water.⁴⁵ Today, water insecurity is already significant and increasing. Currently, water scarcity -- the imbalance between the availability of water and the demand for water -- affects one in three people in the world, and is expected to reach 50% in the next 20 years.⁴⁶ Leading experts from the private sector, government, and civil society now recognize water supply crises⁴ as the most significant risk to society in terms of impact; and they agree the world will face a 40% global shortfall between forecast demand and available supply for water by 2030.^{47,48} Although water is a renewable resource, it is not an inexhaustible resource that is automatically guaranteed for the lives of today's and future generations of children. It cannot withstand constant over-extraction and being depleted faster than being renewed. Water supply crises are happening because increasing populations and rising income levels are leading to unsustainable demand for water-intensive products, such as food and clothing, which in turn drive over-extraction of water and pollution of freshwater ecosystems. The negative results are observed worldwide in rivers running dry, lake and groundwater levels dropping and freshwater available for drinking water reduced. Water management is compounded by climate instability, where flooding, droughts and saline intrusion place additional risks on local water availability and quality. This stark reality presents local and global decision-makers with an urgent challenge to find balanced and sustainable ways to meet growing water demands from: society for drinking and domestic purposes; the economy for agriculture, industry and energy; and the natural environment to continue providing ecosystem services such as recharging aquifers with freshwater. Water scarcity and lack of drinking water are life-threatening and place numerous serious challenges on families and children. Water scarcity forces people to rely on unsafe sources of drinking water, reduces hygiene and increases the risk of disease⁴⁹ and increases the burden on women and girls to fetch water. Children depend on sustainable development to ensure availability and access to water. Failures to address water scarcity will be directly visible in metrics of child health and well-being.

⁴ Water supply crises include the decline in the quality and quantity of fresh water combined with increased competition among resource-intensive systems, such as food and energy production. <http://www.water.ox.ac.uk/water-supply-one-of-world-economic-forums-top-global-risks/>

HEALTHY PHYSICAL ENVIRONMENTS

(i) Children's rights to survival and development can be protected by global investments to stabilize the climate through sustainable energy use; and measures to strengthen resilience to disasters and adapt to climate instability such as adapting social services (e.g. safe water points and environmental education) and promoting the participation and empowerment of children, can protect them from these increasing risks they face.

Children depend on sustainable development to provide a safe physical environment, including preventing them from harmful exposures to which they are uniquely vulnerable, such as air pollution, toxic substances and climate change and disasters. Unstable climate conditions exacerbate existing development challenges and are increasing disaster risks, water scarcity, infectious disease and nutritional insecurity in rain-fed agriculture zones – making current development objectives more difficult and expensive to meet. Experts indicate that children are amongst the most affected by disasters and climate change.⁵⁰ Children are the most vulnerable population to an unstable climate because they are physiologically and metabolically less able than adults to adapt to heat and other climate-related exposures; demand adequate nutrition for cognitive and physical development and are often dependent on adults for their safety during social stress and extreme weather events.^{51,52} They also already suffer the greatest burden of climate sensitive diseases such as malaria, malnutrition and diarrhoea.⁵³ Children are also more likely than adults to be killed or injured during disasters⁵⁴ and can suffer cognitive and psychological trauma from the experience of extreme stress, loss and disruption. Climate change is increasing the frequency and intensity of extreme weather events.⁵⁵ While inadequate or under development in many parts of the world can increase population vulnerability, there are now more people than ever exposed to geophysical and metrological hazards (i.e. living 'in harm's way' such as unplanned urban settlements, floodplains and coastal belts). The combined vulnerability and increase in exposure to a higher number of extreme weather events is increasing disaster risk and -- if left unchecked -- will result in disasters contributing to development setbacks and widening the inequalities between girls and boys, men and women, and often triggering displacement and migration into unsafe marginal lands or urban slums.

(ii) Air pollution-related child deaths and illnesses can be prevented with improved access to renewable low-emission and modern energy, transport and cooking technologies in the home and community.

According to the World Health Organization, 80% of the burden of disease from environmental determinants affects children.⁵⁶ Recent comprehensive studies estimate that every year 3.5 million premature deaths are caused by household air pollution and 3.3 million deaths are due to outdoor air pollution.⁵⁷ Indoor air pollution alone is the leading risk factor for burden of disease⁵ in South Asia; second in Eastern, Central and Western Sub-Saharan Africa; and third in South East Asia. These studies indicate the health dangers of air pollution are far greater than previously thought and directly impact on children's rights to life, survival, development and health. Children are more vulnerable to air pollutants than adults because they take in more air in relation to their body weight; experience greater exposure to ground level contaminants due to height and behaviour; and have immature immune systems and metabolic functions to help them detoxify exposure to pollens and moulds, ozone, sulphur and nitrogen oxides, particulate matter, polycyclic aromatic hydrocarbons and mercury.⁵⁸ When

⁵ Years of life lost combined with years lived at less than full health.

children breathe high levels of or are subjected to consistent exposure to these toxic substances in urban air or smoke from indoor solid fuels, they can experience increased risk of pneumonia,^{59, 60} increased onset and attacks of asthma and allergic rhinitis,⁶¹ and heightened chances for pulmonary and cardiovascular health problems later in life.⁶² The economic and social burden on families, health systems and societies due to air pollution is significant, and can be reduced through improved air quality.

*(iii) Child health and disability is deeply embedded in economics and social and environmental determinants of health. Improving fetal and child health by **reducing chemical and toxic exposure** will influence the whole life of an individual and improve the well-being of society. Child deaths, disabilities and illnesses can be prevented with safer alternatives, sustainable industrial and agricultural practices using fewer chemicals, strengthened local governance, improved waste management and safe production, use, and disposal of chemicals and metals.*

Synthetic chemicals and toxic metals are now ubiquitous in daily life worldwide and pose life threatening and disability-causing risks to children. In the last 30 years, there has been exponential growth in the production and use of potentially toxic chemicals and metals in high- and low-income countries alike. High-income countries have industry and import regulations as well as consumer and worker safety standards to prevent people from exposure to dangerous levels of these substances. However, health risks are rapidly rising in mid- and low-income countries along with industrialization and agricultural modernization.⁶³ This presents new and complex policy and health challenges for corporations and policy-makers to manage the importation, regulation and control of dangerous substances. Without proper information, transport, storage, use and disposal, millions of tons of hazardous agrochemicals; metals (mercury, lead, arsenic, cadmium); PCBs; flame-retardants; persistent organic pollutants (POPs), electronic and petroleum waste are present and often being used in unsafe ways that result in environmental pollution and acute and chronic illnesses and disability, mostly for children.

Extensive global research in children's environmental health indicates children's exposure to even low levels of chemicals and metals at critical stages in their physical and cognitive development can have severe acute and long-term consequences for health.⁶⁴ Environmental pollutants have an increasing role to play in the incidence, prevalence, mortality and costs of paediatric diseases and the onset of health problems later in life due to prenatal or childhood exposures.^{65, 66} Experts report that exposure to chemicals during early foetal development causes neurodevelopmental disorders and brain injury at doses much lower than those affecting adult brain function⁶⁷ and exposure to even low levels of endocrine-disrupting chemicals in the first two years of life affects child growth, thyroid functioning, intellectual capacity, reproductive health and potential fertility.⁶⁸ For example, prenatal pesticide exposure is an identified cause of lasting neurotoxic damage slowing physical and cognitive growth, adding to the adverse effects of stunting and malnutrition in developing countries.⁶⁹ Poor women and children employed in agriculture are often most exposed and carry the health burden of pesticide exposure.⁷⁰

Endocrine-related diseases and disorders are on the rise, such as incidence of preterm birth and low birth weight, and neuro-behavioural disorders associated with thyroid disruption affect a high proportion of children in some countries.⁷¹ Unfortunately, despite our knowledge of many dangers, health impacts of toxic exposures are increasing. For example, it is well known that lead is highly toxic -- particularly for young children -- and damages the brain, nerves, kidneys, stomach and bone marrow as well as causes irreversible intellectual and developmental disabilities.⁷² However, preventable child lead-poisoning deaths increased more than 220% between 1990-2010, from 210,000 to 675,000.⁷³ The

burden of death and disability for children -- and mostly poor children -- is increasing due to the increasing global consumption of lead, largely for batteries.⁷⁴ Most (97%) of the world's batteries are reported to be recycled, mostly in low-income countries in informal, largely uncontrolled settings where poor families and children are the most exposed.⁷⁵ Accidents and large-scale outbreaks of lead poisoning of children from artisanal mining⁷⁶ and the battery and e-waste recycling industry are becoming more common across the developing world.

Evidence and Examples for Key Message 3:

Children's voices, choices and participation are critical for the sustainable future we want

Children not only inherit the future, they also have the right to actively shape their future in the present. The 2012 UN Resolution, *The Future We Want*, states in paragraph 50, "We stress the importance of the active participation of young people in decision-making processes, as the issues we are addressing have a deep impact on present and future generations and as the contribution of children and youth is vital to the achievement of sustainable development. We also recognize the need to promote intergenerational dialogue and solidarity by recognizing their views."⁷⁷

People-centred sustainable development will have greater impact and sustained success by partnering with and empowering children and young people to advocate, innovate and act sustainably. Development results improve when children and young people are consulted, provided opportunities to voice their concerns and initiate action to influence their own present and thus take responsibility for their future. However, to activate this potential, children and young people need support and direct investment to break down apathy, exclusion and other causes for disenfranchisement. Empowering children and young people means providing them with quality education, skills, information, values and opportunities for participation in sustainable development. Experience shows empowered children and young people can effectively exercise their right to be heard and be taken seriously, become responsible citizens, broaden their skills and competencies, make sustainable choices and become effective future guardians of a sustainable world. The following examples show how empowering and partnering with children and young people through *learning and education; engaging and listening to them; and investing in their innovation and problem solving*, can deliver the competencies and opportunities children and young people need to engage in the debate, support their communities and become the citizens and leaders that drive sustainable development.

LEARNING AND EDUCATION: *Children and young people must learn to thrive in and drive the social transformation needed for the sustainable future they want. Sustainable change comes through an educated and aware society, prepared to effectively cope with challenges and make sustainable choices about how we consume, live and cooperate.*

First and foremost, it must be recognized that children and young people can create the momentum for long and lasting social transformation through their choices and actions to live sustainably, or not. Inclusive, rights-based quality education, both formal and non-formal, is a primary driver of both development progress and societal transformation to sustainable development pathways. Education is often the missing piece. Inclusive education for all girls and boys – regardless of location, ethnic background or disability status -- is a primary mechanism to break the structural inequalities that impede sustainable development and prevent social cohesion. Enabling sustainable development means empowering children through education by going the last mile to support the 61 million primary-school-age children currently estimated to be out of school.⁷⁸ Additionally, despite government efforts to enhance environmental sustainability through the protection of biodiversity and improvement of water resource management, many countries find that without education that transforms social values and

provides life-skills to solve problems, these efforts will not be fully effective mechanisms toward sustainability. Education is considered by some countries to be the fundamental tool that links the three core dimensions of the economy, society and environment together under a sustainable development strategy.⁷⁹ By integrating sustainability into education for children and young people, we engender the core values of social justice needed for sustainable societies. This means fundamentally transferring -- along with appropriate skills and knowledge -- the value of *respect for others*, including those of present and future generations, diversity in societies and cultures and respect for the natural resources of our planet. Education for Sustainable Development (ESD),⁸⁰ originating from Agenda 21, is one such process that is bringing together pedagogies and approaches to education, public awareness and training to equip children and young people with these foundational rights, skills, values, and knowledge to create a more just and sustainable society. ESD programmes are locally relevant and culturally appropriate, and prepare populations to reduce their vulnerabilities to disasters, adapt to climate change and cultivate essential life skills and know-how to ensure productivity, social mobility and global citizenship.

ENGAGING AND LISTENING TO CHILDREN AND YOUNG PEOPLE: *Partnering with children and young people empowers them to exercise their right to participate, raises awareness of issues that matter to children, and can lead to appropriate and innovative community solutions.*

Secondly, around the world children and young people contribute to sustainable development by raising awareness of issues that matter to them with their governments, schools and communities. Being heard is the first step that allows them to propose and engage in solutions at the local, national and international level. Engaging children and young people not only proves effective -- by gaining attention, energy and momentum for issues relevant to children -- it is also their right. The CRC asserts that children have a right to be heard in decision-making that affects their lives (Articles 12 and 13). Although the impact of child engagement is often difficult to measure at scale, hundreds of examples are known from around the world where child and youth empowerment has been a catalyst for child-driven change for sustainable development.

One example is Uganda's U-Report, a joint effort of UNICEF, civil society organizations, the private sector and the national government to bring in the voices of children and young people on critical issues that affect their lives.⁸¹ This mobile phone application allows anyone in Uganda with a mobile phone to become a volunteer 'U-reporter', answering simple poll questions or sharing their observations and ideas on a wide range of local development issues. During the first year, the network of U-reporters grew by 400 to 500 members a day, to almost 200,000 members today.⁸² U-report is now launching or being piloted in several other countries including Zambia, South Sudan, Democratic Republic of the Congo, Zimbabwe and Burundi. This small effort, along with similar experiences in other countries, is now revolutionizing social mobilization, monitoring and response efforts by enabling children and young people to have a say and be an actor for change on issues that affect them and their communities.

Another example of the power of young voices is the international youth⁶ movement for climate change, with hundreds of thousands of members from almost every country. Young people are now recognized as official constituents to the UN Framework Convention on Climate Change (UNFCCC). Represented through *Youngo*, the official youth constituency, young people are able to observe and

⁶ The age range of participants in the international youth movement may range from adolescents and young people under the age of 18, up to sometimes those of 25-30 years of age.

inform the implementation of the convention, and communicate with the secretariat of the UNFCCC on behalf of young people at the negotiations. Members work to influence key decision-makers in government, business and the media, and galvanize public opinion by mobilizing global and local grassroots movements around the world. For example in Zambia, *Unite4Climate* is a youth-led movement which aims to create climate change awareness across the country and mobilize children and young people through Children's Climate Conferences. Through this programme, hundreds of child and youth ambassadors have been trained in environmental awareness, communication and action that helps them become peer-educators and to design appropriate solutions for their schools and communities. Participating children have gone on to launch: community radio programmes in their villages; waste clean-up activities and long-term waste management systems; businesses to convert waste into valuable products to generate revenue and jobs; tree plantation programmes with local, drought-tolerant species; and advocate for floating schools in flood-prone areas. Social media, mobile technology open source platforms and other technologies are rapidly increasing opportunities to listen to and partner with children and young people.

INVESTING IN INNOVATION AND PROBLEM SOLVING BY CHILDREN AND YOUNG PEOPLE: *The challenges of sustainable development need the ideas and energy of children and young people to solve today's problems. Engaging children and young people to be part of the solution and to make a difference in their communities builds their life skills and confidence to be effective citizens and future leaders.*

Finally, children and young people can be creative, passionate and innovative problem solvers and are critical partners for sustainable development. Research on youth-led innovation shows they are already making significant contributions in the domains of commercial and public products and services, civic engagement and political activism, and cultural, subcultural or countercultural innovations.⁸³ A vast range of experiences indicate that when children and young people are given tools to document, analyze and understand the challenges they face, time and time again they come up with appropriate solutions for themselves and their communities. With support, children and young people can make a difference. For example in Kosovo, "Prishtina Buses" is a youth-led civic-engagement project to reduce urban air pollution and enhance local quality of life.⁸⁴ The aim of this initiative is to increase the use of public transportation instead of private cars, by launching the first online platform for residents to easily access information on public transportation options.

Children and young people around the world are already successfully developing real solutions on disaster risk reduction, environmental conservation, water and air quality or waste that their communities face. For this reason, UNICEF and other organizations are explicitly partnering with and investing in children's and young people's innovation. Investment in child and youth participation and innovation not only solves local problems, but improves how we communicate and design solutions for children and young people; strengthens their understanding of and commitment to democracy,⁸⁵ increases a sense of civic belonging, and strengthens critical life skills and confidence. For example, children who participate in child-led disaster risk reduction indicate greater capacity to cope with disasters; their sense of security is increased; their knowledge of the risks is developed; and their sense of control and survival potential is enhanced by knowing how to respond to disasters.⁸⁶ By partnering with children and young people they acquire critical life-skills, including core citizenship competencies needed to create sustainable societies.

Cover Page Photo Credits:

UNICEF/NYHQ 2004-1408/Giacomo Pirozzi; UNICEF/NYHQ 2008-0568/Adam Dean; UNICEF/NYHQ 2010-2928/Christine Nesbitt; UNICEF/NYHQ 2009-2170/Tom Pietrasik

Notes:

The text box on page 5 references several international conventions, treaties and other legal instruments including:

- *Convention on the Rights of the Child (CRC)*. (1989). At: <<http://www.ohchr.org/EN/ProfessionalInterest/Pages/CRC.aspx>>
- *Convention on Biological Diversity*. (1992). At: <http://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-8&chapter=27&lang=en>
- *United Nations Framework Convention on Climate Change*. (1992). At: <<http://unfccc.int/resource/docs/convkp/conveng.pdf>>
- *United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (UNCCD)*. (1994). At: <http://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-10&chapter=27&lang=en>
- *Rio Declaration on Environment and Development*. (1992). At: <http://www.unesco.org/education/nfsunesco/pdf/RIO_E.PDF>
- *The human right to water and sanitation* (2010). At: <<http://www.unhcr.org/refworld/docid/4cc926b02.html>>
- *A world fit for children*. (2002). At: <<http://www.unicef.org/specialsession/wffc/>>

References:

- ¹ World Commission on Environment and Development (WCED). *Our common future*. (Oxford University Press, 1987).
- ² Weiss, E. B. In fairness to future generations and sustainable development. *Am. UJ Int'l L. & Pol'y* **8**, 19 (1992).
- ³ UN General Assembly. *The Future We Want*. (2012). At: <http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/66/288&Lang=E>
- ⁴ Goldman, L. & Tran, N. L. *Toxics and Poverty: The Impact of Toxic Substances on the Poor in Developing Countries*. (World Bank, 2002).
- ⁵ Currie, J. & Almond, D. in *Handbook of Labor Economics* (David Card and Orley Ashenfelter) **Volume 4, Part B**, 1315–1486 (Elsevier, 2011)
- ⁶ Guerrant, R. L., Oriá, R. B., Moore, S. R., Oriá, M. O. B. & Lima, A. A. M. Malnutrition as an enteric infectious disease with long-term effects on child development. *Nutr. Rev.* **66**, 487–505 (2008).
- ⁷ Berkman, D. S., Lescano, A. G., Gilman, R. H., Lopez, S. L. & Black, M. M. Effects of stunting, diarrhoeal disease, and parasitic infection during infancy on cognition in late childhood: a follow-up study. *The Lancet* **359**, 564–571 (2002).
- ⁸ Dillingham, R. & Guerrant, R. L. Childhood stunting: measuring and stemming the staggering costs of inadequate water and sanitation. *The Lancet* **363**, 94–95 (2004).
- ⁹ Grantham-McGregor, S. *et al.* Developmental potential in the first 5 years for children in developing countries. *The Lancet* **369**, 60–70 (2007).
- ¹⁰ Shekar, M., Heaver, R. & Lee, Y.-K. *Repositioning nutrition as central to development: A strategy for large scale action*. (World Bank Publications, 2006). at <[http://books.google.com/books?hl=en&lr=&id=PRPc32wCLjMC&oi=fnd&pg=PR3&dq=%22is+much+evidence+that+nutrition+and+economic+development+have%22+%22relationship.+Improved+economic+development+contributes%22+%22nutrition+\(albeit+at+a+very+modest+pace\),+but+more%22+%22nutrition+drives+stronger+economic+growth.+Furthermore,%22+%22&ots=Va6mHsSrrB&sig=vPpQBzla6kGz707N5iXu_AaDjVs](http://books.google.com/books?hl=en&lr=&id=PRPc32wCLjMC&oi=fnd&pg=PR3&dq=%22is+much+evidence+that+nutrition+and+economic+development+have%22+%22relationship.+Improved+economic+development+contributes%22+%22nutrition+(albeit+at+a+very+modest+pace),+but+more%22+%22nutrition+drives+stronger+economic+growth.+Furthermore,%22+%22&ots=Va6mHsSrrB&sig=vPpQBzla6kGz707N5iXu_AaDjVs)>
- ¹¹ World Bank. *Global Monitoring Report 2012. Nutrition, the MDGs, and Food Price Developments. Chapter 2*. (2012).
- ¹² DFID. *Girls' Education Challenge: Business Case*. (2012). at <<http://projects.dfid.gov.uk/iati/Document//3717197>>
- ¹³ Blankespoor, B., Dasgupta, S., Laplante, B. & Wheeler, D. The economics of adaptation to extreme weather events in developing countries. *Centre for Global Development Working Paper* (2010). at <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1542720>
- ¹⁴ Gakidou, E., Cowling, K., Lozano, R. & Murray, C. J. Increased educational attainment and its effect on child mortality in 175 countries between 1970 and 2009: a systematic analysis. *The Lancet* **376**, 959–974 (2010).
- ¹⁵ Wheeler, D. & Hammer, D. The economics of population policy for carbon emissions reduction in developing countries. *Centre for Global Development Working Paper* (2010). at <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1824442>
- ¹⁶ Pinheiro, P. S. de M. S. & UN. Independent Expert for the United Nations Study on Violence against Children. *World report on violence against children*. (UN, 2006). at <<http://www.unicef.org/violencestudy/reports.html>>

-
- ¹⁷ Muldoon, O. T. in *Handb. Resil. Child. War* (Fernando, C. & Ferrari, M.) 223–231 (Springer New York, 2013). at <http://link.springer.com/chapter/10.1007/978-1-4614-6375-7_16>
- ¹⁸ De Viñar, M. U. Political Violence: Transgenerational Inscription and Trauma. *Int. J. Appl. Psychoanal. Stud.* **9**, 95–108 (2012).
- ¹⁹ Fowler, P. J., Tompsett, C. J., Braciszewski, J. M., Jacques-Tiura, A. J. & Baltes, B. B. Community violence: A meta-analysis on the effect of exposure and mental health outcomes of children and adolescents. *Dev. Psychopathol.* **21**, 227 (2009).
- ²⁰ *World report on violence against children.*
- ²¹ Community violence: A meta-analysis on the effect of exposure and mental health outcomes of children and adolescents.
- ²² Jonson-Reid, M. Youth violence and exposure to violence in childhood: An ecological review. *Aggress. Violent Behav.* **3**, 159–179 (1998).
- ²³ Buka, S. L., Stichick, T. L., Birdthistle, I. & Earls, F. J. Youth Exposure to Violence: Prevalence, Risks, and Consequences. *Am. J. Orthopsychiatry* **71**, 298–310 (2001).
- ²⁴ Evans, S. E., Davies, C. & DiLillo, D. Exposure to domestic violence: A meta-analysis of child and adolescent outcomes. *Aggress. Violent Behav.* **13**, 131–140 (2008).
- ²⁵ Golden, C. J., Jackson, M. L., Peterson-Rohne, A. & Gontkovsky, S. T. Neuropsychological correlates of violence and aggression: A review of the clinical literature. *Aggress. Violent Behav.* **1**, 3–25 (1996).
- ²⁶ Marshall, G. N., Schell, T. L., Elliott, M. N., Berthold, S. M. & Chun, C.-A. Mental health of Cambodian refugees 2 decades after resettlement in the United States. *Jama J. Am. Med. Assoc.* **294**, 571–579 (2005).
- ²⁷ Rieder, H. & Elbert, T. Rwanda - lasting imprints of a genocide: trauma, mental health and psychosocial conditions in survivors, former prisoners and their children. *Confl. Health* **7**, 6 (2013).
- ²⁸ Sabin M, L. C. B. Factors associated with poor mental health among Guatemalan refugees living in Mexico 20 years after civil conflict. *JAMA* **290**, 635–642 (2003).
- ²⁹ *Rwanda - lasting imprints of a genocide: trauma, mental health and psychosocial conditions in survivors, former prisoners and their children.*
- ³⁰ UNDP. *Human Development Report 2011 - Sustainability and Equity: A Better Future for All.* (Human Development Report Office (HDRO), United Nations Development Programme (UNDP), 2011). at <<http://ideas.repec.org/b/hdr/report/hdr2011.html>>
- ³¹ UN High Level Committee on Programmes. *Greener, fairer and more sustainable globalization.* (2011).
- ³² Berg, A. & Ostry, J. D. *Inequality and Unsustainable Growth: Two Sides of the Same Coin?* (International Monetary Fund, 2011).
- ³³ Ortiz, I. & Cummins, M. *Global Inequality: Beyond the Bottom Billion: A Rapid Review of Income Distribution in 141 Countries.* (UNICEF, 2011). at <http://www.unicef.org/socialpolicy/files/Global_Inequality.pdf>
- ³⁴ Copenhagen Consensus 2012: Outcome Paper. at <http://www.copenhagenconsensus.com/sites/default/files/Outcome_Document_Updated_1105.pdf>
- ³⁵ Engle, P. L. *et al.* Strategies for reducing inequalities and improving developmental outcomes for young children in low-income and middle-income countries. *The Lancet* **378**, 1339–1353 (8).
- ³⁶ David R. Boyd. *The Environmental Rights Revolution: A Global Study of Constitutions, Human Rights, and the Environment.* (UBC Press, 2012).
- ³⁷ World Bank. *Fragile and Conflict Affected Situations Brief* (March 2013). (2013). at <<http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:20042303~menuPK:34480~pagePK:64257043~piPK:437376~theSitePK:4607,00.html>>

-
- ³⁸ Ibid
- ³⁹ DFID. *Why we need to work more effectively in fragile states*. (2005).
- ⁴⁰ Ibid
- ⁴¹ BASICS. *Fragile States*. (Basic Support for Institutionalizing Child Survival (BASICS) for the United States Agency for International Development (USAID)., 2010). at <www.basics.org/reports/.../fragile-states-final-report_basics.pdf>
- ⁴² Ibid
- ⁴³ UN General Assembly. *The human right to water and sanitation : resolution adopted by the General Assembly, 3 August 2010, A/RES/64/292*. (2010). at <<http://www.unhcr.org/refworld/docid/4cc926b02.html>>
- ⁴⁴ WHO/UNICEF Joint Water Supply and Sanitation Monitoring Programme, World Health Organization & UNICEF. *Progress on drinking water and sanitation 2012 update*. (UNICEF ; World Health Organization, 2012). at <http://whqlibdoc.who.int/publications/2012/9789280646320_eng_full_text.pdf>
- ⁴⁵ Schuster-Wallace, C. J. & International Network on Water, E. and H. *Safe water as the key to global health*. (United Nations University, International Network on Water, Environment and Health, 2008). at <http://www.inweh.unu.edu/documents/SafeWater_Web_version.pdf>
- ⁴⁶ Addams, L., Boccaletti, G., Kerlin, M. & Stuchtey, M. *Charting Our Water Future—Economic frameworks to inform decision-making. 2030 Water Resources Group*. (2009).
- ⁴⁷ Ibid
- ⁴⁸ Howell, W. L. & World Economic Forum. Risk Response Network. *Global risks 2013*. (World Economic Forum, 2013).
- ⁴⁹ Prüss-Üstün, A., Kay, D., Fewtrell, L. & Bartram, J. Unsafe water, sanitation and hygiene. *Comparative Quantification of Health Risks: Global and Regional Burden of Disease due to Selected Major Risk Factors 2*, (2004).
- ⁵⁰ Field, C. B. *et al.* IPCC, 2012: Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change [Field, C.B., V. Barros, T.F. Stocker, D. Qin, D.J. Dokken, K.L. Ebi, M.D. Mastrandrea, K.J. Mach, G.-K. Plattner, S.K. Allen, M. Tignor, and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, UK, and New York, NY, USA, 582 pp. (2012).
- ⁵¹ Baez, J. E. & Santos, I. V. Children’s vulnerability to weather shocks: A natural disaster as a natural experiment. *Social Science Research Network, New York* (2007). at <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.175.2774&rep=rep1&type=pdf>>
- ⁵² Sapir, D. G. Natural and man-made disasters: the vulnerability of women-headed households and children without families. *World Health Stat Q* **46**, 227–33. (1993).
- ⁵³ Ezzati, M., Lopez, A., Rodgers, A. & Murray, C. *Comparative Quantification of Health Risks: Global and Regional Burden of Disease due to Selected Major Risk Factors*. (World Health Organization, 2004).
- ⁵⁴ Noji, E. K. *The public health consequences of disasters*. (Oxford University Press, 1997).
- ⁵⁵ IPCC, 2012: *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change*.
- ⁵⁶ Pruss-Ustun, A. & Corvalán, C. *Preventing disease through healthy environments: Towards an estimate of the environmental burden of disease*. (World Health Organization, 2006).
- ⁵⁷ Lim, S. S. *et al.* A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. *The Lancet* **380**, 2224–2260 (2012).

-
- ⁵⁸ Perera, F. P. Children Are Likely to Suffer Most from Our Fossil Fuel Addiction. *Environ Health Perspect* **116**, 987–990 (2008).
- ⁵⁹ Dherani, M. *et al.* Indoor air pollution from unprocessed solid fuel use and pneumonia risk in children aged under five years: a systematic review and meta-analysis. *Bull World Health Organ* **86**, 390–398 (2008).
- ⁶⁰ Smith, K. R., Samet, J. M., Romieu, I. & Bruce, N. Indoor air pollution in developing countries and acute lower respiratory infections in children. *Thorax* **55**, 518–532 (2000).
- ⁶¹ Kim, J. J. Ambient air pollution: health hazards to children. *Pediatrics* **114**, 1699–1707 (2004).
- ⁶² Baumgartner, J. *et al.* Household Air Pollution and Children’s Blood Pressure. *Epidemiology* **23**, 641–642 (2012).
- ⁶³ Horton, L. M., Mortensen, M. E., Iossifova, Y., Wald, M. M. & Burgess, P. What Do We Know of Childhood Exposures to Metals (Arsenic, Cadmium, Lead, and Mercury) in Emerging Market Countries? *International Journal of Pediatrics* **2013**, (2013).
- ⁶⁴ Landrigan, P. J. & Goldman, L. R. Children’s vulnerability to toxic chemicals: a challenge and opportunity to strengthen health and environmental policy. *Health Affairs* **30**, 842–850 (2011).
- ⁶⁵ *Ibid*
- ⁶⁶ Shannon, M., Woolf, A. & Goldman, R. Children’s environmental health: one year in a pediatric environmental health specialty unit. *Ambulatory Pediatrics* **3**, 53–56 (2003).
- ⁶⁷ Grandjean, P. & Landrigan, P. Developmental neurotoxicity of industrial chemicals. *The Lancet* **368**, 2167–2178 (16).
- ⁶⁸ WHO | Endocrine disrupters and child health. (2012). at <http://www.who.int/ceh/publications/endocrine_disrupters_child/en/index.html>
- ⁶⁹ Harari, R. *et al.* Neurobehavioral Deficits and Increased Blood Pressure in School-Age Children Prenatally Exposed to Pesticides. *Environ Health Perspect* **118**, 890–896 (2010).
- ⁷⁰ *Toxics and Poverty: The Impact of Toxic Substances on the Poor in Developing Countries.*
- ⁷¹ *The economics of population policy for carbon emissions reduction in developing countries.*
- ⁷² WHO. *State of the Science of Endocrine Disrupting Chemicals.* (WHO, 2012).
- ⁷³ *A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010.*
- ⁷⁴ WHO. *Childhood Lead Poisoning.* (WHO, 2010). at <<http://www.who.int/ceh/publications/leadguidance.pdf>>
- ⁷⁵ *Children’s vulnerability to toxic chemicals: a challenge and opportunity to strengthen health and environmental policy.*
- ⁷⁶ Burki, T. K. Nigeria’s lead poisoning crisis could leave a long legacy. *The Lancet* **379**, 792 (2012).
- ⁷⁷ *The Future We Want.*
- ⁷⁸ United Nations. *The Millennium Development Goals Report 2012.* (United Nations, 2012).
- ⁷⁹ UNESCO. *Globalization and Education for Sustainable Development: Sustaining the Future.* International Conference Report Nagoya Japan 28–29 June 2005. (2006). at <<http://unesdoc.unesco.org/images/0014/001492/149295E.pdf>>
- ⁸⁰ Nolan, C. *Shaping the education of tomorrow 2012 2012 report on the UN decade of education for sustainable development, abridged.* (UNESCO, 2012).
- ⁸¹ U-Report Uganda: Project Profile. (2012). at <http://ureport.ug/about_ureport/>
- ⁸² UNICEF. U-report application revolutionizes social mobilization, empowering Ugandan youth. (2012). at <http://www.unicef.org/infobycountry/uganda_62001.html>

⁸³ Sebba, J. *et al.* Youth-led innovation Enhancing the skills and capacity of the next generation of innovators. (2009). at <<http://www.nesta.org.uk/library/documents/Report%20%20-%20Youth-led%20innovation%20final.pdf>>

⁸⁴ Public Transportation in Pristina, Kosovo: Prishtina Buses Project Profile. (2012). at <<http://unicefinnovation.org/projects/public-transportation-pristina>>

⁸⁵ Lansdown, G. *Promoting children's participation in democratic decision-making*. (UNICEF Innocenti Research Centre, 2001). at <<http://ideas.repec.org/p/ucf/innins/innins01-9.html>>

⁸⁶ Benson, L. & Bugge, J. *Child-led disaster risk reduction: a practical guide*. (Save the Children, 2007).