

Child- Centred adaptation:

REALISING CHILDREN'S RIGHTS IN A CHANGING CLIMATE

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children in a changing climate



EXECUTIVE SUMMARY

Climate change is happening now...	It is not a challenge for the distant future. Impacts are already being felt by the most vulnerable around the world. More than 400,000 deaths are attributable to climate change each year, mostly among the poor and vulnerable. Climate change threatens to undermine progress on poverty reduction. International goals to reduce poverty cannot be met in the absence of bold action on climate change. It is crucial for world leaders to take bold and concerted action to support communities to adapt to the changing climate while substantially reducing greenhouse gas emissions to minimise future harm.
...Children are disproportionately affected...	Children are among the most vulnerable to the impacts of climate change. In developing countries, climate change is projected to exacerbate the top five causes of death for children under five. They are the least responsible for creating climate change but will bear the brunt of its impacts. How communities and governments plan for and respond to climate change through policies and practical actions today will have a lasting effect on children's futures.
...and they are also powerful agents of change	Children are much more than passive victims of climate change – they are powerful agents of change active at all levels. Children can make a strong contribution to risk reduction, adaptation and building the resilience of their communities by undertaking climate risk assessments, planning and implementing adaptation and raising awareness of climate risks and solutions. The challenge is clear: Our children's future is at stake. In the face of unavoidable impacts for the next generation, child-centred adaptation is a necessary element of the global response to climate change.
Taking a child-centred approach to climate change adaptation...	<p>This means:</p> <ul style="list-style-type: none">◆ focusing on the specific risks faced by children in a changing climate;◆ ensuring children's needs and capacities are central to adaptation planning and implementation; and◆ increasing the voice and agency of children in adaptation decision-making processes. <p>Children, however, do not form one homogenous group. Their needs and capacities differ across age, gender, geography and socio-economic status. Child-centred adaptation ensures that all children are able to meaningfully participate in the adaptation process and no one is left behind.</p>
and mainstreaming child-centred climate change adaptation into development...	Given the inter-linkages between climate change and poverty, measures to improve child well-being should take into account the impacts of climate change to ensure outcomes are sustainable. Governments at all levels should be integrating risk reduction and resilience building into development programmes across all sectors. At the heart of this should be the mainstreaming of child-centred adaptation into development processes.
...results in reduced risk and increased resilience	Investing in the resilience of children will pay dividends; it generates economies of scale and promotes economic gains. Child-centred adaptation measures are also often low cost. Across all sectors, where children are engaged in risk reduction and resilience building actions, our agencies have seen whole communities benefit through increased understanding of, and action in response to, climate variability and change.

...Our recommendations

The analysis that follows shows that children should be a focus of efforts to address climate change, and play an active part in the decisions that shape their present and future. Members of the Children in a Changing Climate coalition call on governments to commit to six priority actions in the implementation of their climate change commitments.

01	Recognise the unique needs and capacities of children <p>Child-centred approaches to adaptation are effective and should be included prominently in local and national climate change and development planning processes. Existing adaptation policies, guidelines and strategies should be reviewed to ensure that children are visible, that their rights are being respected, and that the root causes of girls' and boys' vulnerability are addressed. Newly developed plans, including National Adaptation Plans, should include child-centred approaches and ensure that children's rights are integrated into policy implementation.</p>
02	Engage children in adaptation decision-making, implementation and monitoring <p>Children are capable of developing and implementing innovative solutions to complex problems. Local and national decision-makers should provide the space and resources for children to contribute to adaptation actions as well as to develop their own solutions to the specific local climate change impacts that affect them. Children's views and ideas, and their right to participate in decisions that affect them, must be respected.</p>
03	Provide children access to the global stage - and listen to them <p>As countries implement commitments under the UNFCCC, children should be closely engaged in the design, implementation and monitoring of actions. Children's monitoring role should include a facility through which they are able to report back to future Conferences of the Parties to help the UNFCCC track progress and promote cross-learning between nations.</p>
04	Build a climate change and adaptation literate generation <p>Under Article 6 of the UNFCCC, governments have agreed that educating, empowering and engaging all stakeholders, including children and young people, is an essential part of the response to climate change. Climate change and risk reduction education helps increase the adaptive capacity of children and their communities, fosters environmental stewardship and contributes to effective adaptation actions. Increasing children's understanding of the risks of climate change empowers them to influence decisions that affect their safety and wellbeing. Governments should work to integrate climate change and adaptation into school curricula and ensure teacher training programmes include up-to-date and locally-relevant climate change information..</p>
05	Focus on the most vulnerable <p>Adaptation efforts should focus on the most vulnerable groups, including children. Actions should be based on meaningful, gender-sensitive and inclusive consultations and participatory design processes that result in programmes that fully address the needs of the most vulnerable. Adaptation funding allocations should be based on need, with more funding flowing to local level actions in particularly vulnerable communities and high-risk areas.</p>
06	Prioritise community-based adaptation <p>Governments should prioritise local-level adaptation actions when framing and implementing National Adaptation Plans. Adaptation needs are greatest at the local level, where vulnerable people will be most affected. To date, the majority of adaptation funding has flowed to national-level projects. It is critical that funding for community-based adaptation is significantly scaled up to address priority needs and start closing the adaptation deficit. The specific needs, rights and capacities of children should also feature prominently in local-level vulnerability assessments and community responses.</p>

CLIMATE CHANGE & CHILDREN

Climate change is happening now

Climate change is not a challenge for the distant future. Its impacts are already being felt by the most vulnerable around the world. At least 400,000 deaths each year are directly linked to its effects.ⁱ As impacts intensify, this number will rise – with those living in poverty in developing countries the most affected. Unaddressed, climate change threatens to undermine progress in poverty reduction and risks committing a third of the world's population to a life in extreme poverty by 2050.ⁱⁱ Climate change and poverty are inextricably interlinked. As such, international goals to reduce poverty cannot be met in the absence of action on climate change.

Extreme weather events and climate-related hazards are increasing in frequency and intensity – from floods and cyclones to droughts and heatwavesⁱⁱⁱ – resulting not only in rising economic loss and impact, but also lasting development setbacks. For example, climate-related extreme events are often the catalyst for the spread of diseases as well as widespread malnutrition.^{iv}

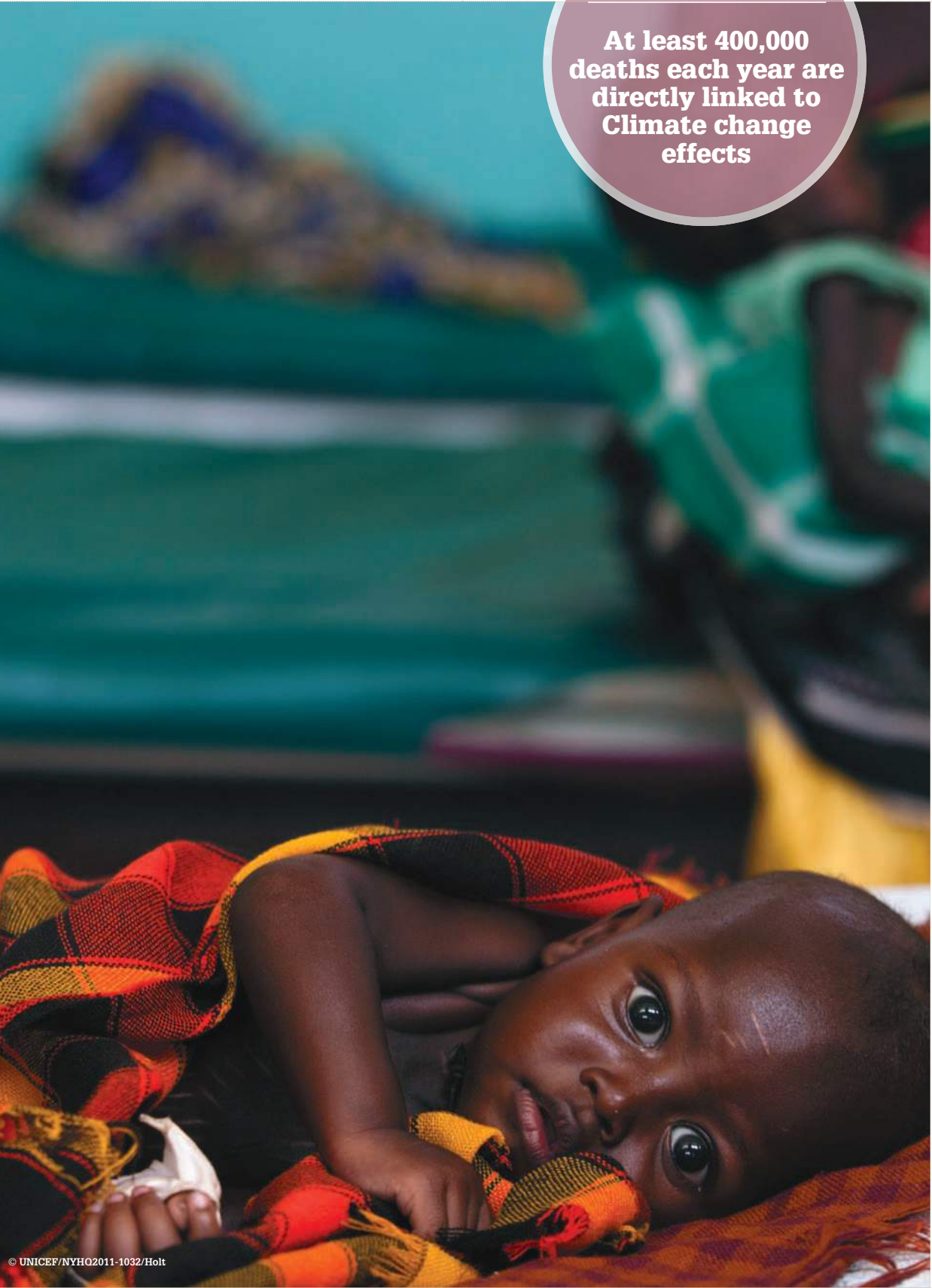
Understanding the context is important for developing appropriate adaptation responses as contexts evolve over time. For example, more than half of the global population now live in urban areas, many of which are characterised by rapid, unplanned development.^v This means that the majority of people affected by extreme weather events are now located in urban environments.^{vi} Addressing the adaptation needs of children in urban areas is a significant new challenge.

In this context, it is crucial for world leaders to take bold and concerted action to support communities to adapt to the changing climate while agreeing, and establishing mechanisms, to substantially reduce greenhouse gas emissions.^{vii}

Governments must take strong action to protect children from the impacts of a changing climate. Countries will need to implement their commitments without delay if we are to avoid dangerous climate change. Children need to be at the centre of implementation efforts.

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At least 400,000 deaths each year are directly linked to Climate change effects



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Children are disproportionately affected

Children^{viii} are among the most vulnerable groups to the impacts of climate change.^{ix} In developing countries, climate change is projected to exacerbate the top five causes of death for children under five (acute respiratory illness, diarrhoea, malaria, malnutrition and neonatal deaths); including up to an 8 per cent increase in diarrhoeal disease for every 1°C temperature increase, and up to a 28 per cent increase of malaria exposure in Africa this century.^x The burden of climate-related diseases already falls predominately on children in developing countries and this will only worsen as impacts increase.^{xi}

At its core, climate change is an issue of equity, both within the current generation and across generations.^{xii} Children are the least responsible for climate change, but will be left to bear the brunt of its impacts – a future with increasingly extreme climate change effects poses challenges to sustainable development and human rights. Despite their vulnerability, children are often excluded from decision-making processes on climate change and denied access to information and resources that would help them to engage. How communities and governments plan for and respond to the impacts of climate change through policies and practical actions today will have a lasting effect on children's futures.



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Children as agents of change

Children are much more than passive victims of climate change – they are powerful agents of change, active at all levels, from the community, national, to international arenas. With access to knowledge and skills development, children can make a strong contribution to risk reduction, adaptation and building the resilience of their communities. Engaging and empowering children today lays the foundations for a culture of safety, risk management, and environmental sustainability. The case studies in this publication illustrate a diversity of ways in which children are engaged in and leading on climate change adaptation.

The challenge is clear. Our children’s present and future are at stake – the world is running out of time to reduce its greenhouse gas emissions and transition to a low-emission, climate resilient global society. In the face of unavoidable impacts for the next generation, child-centred adaptation is a necessary aspect of the global response.

WHY FOCUS ON CHILDREN?

In 2015, around 30 per cent of the global population was under 18 years of age.^{xiii} This rises to nearly 50 per cent in Least Developed Countries.^{xiv} There are 33 countries with a median age of 18 years or younger – all in climate-vulnerable developing countries, overwhelmingly in Africa.^{xv} And, globally, there are nearly twice as many children under 15 as there are adults over 60.^{xvi} Despite this, children’s voices are often not heard in key decision-making forums, where their future is being shaped.

Children’s rights to participate

in decisions that affect them are enshrined in the Convention on the Rights of the Child.^{xvii} It is essential that children actively participate in, and contribute to, adaptation planning and implementation at local, national and international levels. Young people are best placed to identify their own risks, needs and capacities. Involving children in adaptation will increase effectiveness and enhance impact, particularly at the local level.^{xviii}

But children can’t do it alone. They need to know their ideas and opinions will be taken seriously

and that their needs and capacities will be included in adaptation planning and implementation at all levels. They need adults to fulfil their commitments to children’s rights – to ensure children have access to child-friendly information and resources and that they are provided access to, and participation in, safe decision-making forums. Children have a right to be at the centre of decisions on issues that affect them now and shape their future. Climate change is one of those issues. Taking a child-centred approach to adaptation will ensure this happens.

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Children are much more than passive victims of climate change - they are powerful agents of change



THE CHILD-CENTRED APPROACH TO ADAPTATION

ADAPTATION & CHILD-CENTRED ADAPTATION

The UNFCCC defines adaptation as ‘adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts... [resulting in] changes in processes, practices, and structures to moderate potential damages or to benefit from opportunities associated with climate change’.^{xxix} Taking a child-centred approach to adaptation means:

- ◆ focusing on the specific risks faced by children in a changing climate;
- ◆ ensuring children’s needs and capacities are central to adaptation planning and implementation; and
- ◆ increasing the voice and agency of children in adaptation decision-making processes.

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Mainstreaming is proving to be among the most viable ways to ensure adaptation happens where needs are greatest

The child-centred approach is not only about strengthening the wellbeing of children – it is equally about working with children, young people, households, communities, local and national governments, and international organisations, to reduce or mitigate the risks that directly impact children’s lives.

The approach focuses on the particular risks girls and boys face in their specific contexts, and ensures their voices and opinions are central in the effort to build their resilience to a changing climate. As children do not form one homogenous group, and their needs and capacities differ across age, gender, geography and socio-economic status, it is important to ensure all children are able to meaningfully participate in the adaptation process.

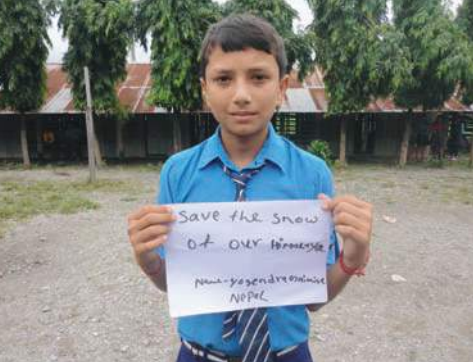
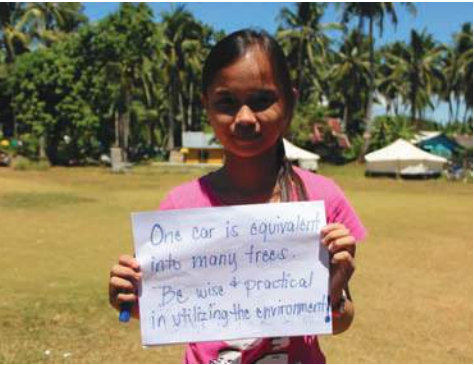
There are two aspects of child-centred adaptation: adaptation *for* children, where the capacity of caregivers to focus on children’s needs and capacities is enhanced; and adaptation with children, *where* children are centrally involved in the decision-making, planning and implementation of adaptation at all levels.

Mainstreaming child-centred adaptation into development

Given the inter-linkages between climate change and poverty, measures to improve child well-being should take into account the impacts of climate change to ensure outcomes are sustainable. Governments at all levels should be integrating risk reduction and resilience building into development programmes across all sectors by mainstreaming adaptation into development processes. Research shows that development programmes are more likely to be effective if climate and disaster risks are taken into account at the very early stages of the planning cycle.^{xx} Mainstreaming is proving to be among the most viable ways to ensure adaptation happens where needs are greatest.^{xxi}

Taking a child-centred approach to adaptation mainstreaming means:

- ◆ children are a key part of the process of identifying risks and resilience-building options when planning and implementing development programmes;
- ◆ children’s specific needs and capacities are included in the vulnerability assessments and planning processes that inform climate-smart development programmes; and
- ◆ children are included in the processes of monitoring and evaluation of programmes and initiatives that affect them



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Reducing risk, increasing resilience - seeing the benefits

Investing in the resilience of children will pay dividends. Research shows there are economic benefits to child-centred adaptation across at least three areas:

- ◆ **low Cost**
Many child-centred adaptation options have low upfront costs, including insecticide-treated mosquito nets, water, sanitation and hygiene training, and disaster preparedness education.
- ◆ **eConoMies of sScale**
Children represent one of the largest at risk groups. By targeting their specific needs, we have the chance to reduce the impacts of climate change across a significant proportion of the vulnerable population. Child-centred adaptation also helps children develop the skills they will need as adults in a climate-changed world.
- ◆ **eConoMiC gains**
avoiding degradation in children’s health, education and protection could substantially offset projected losses and increase communities’ ability to engage in economic activities. the cost burden for households can be reduced by adaptation actions that increase children’s health and education outcomes. furthermore, the future pay off for ensuring children’s access to these essential services is a brighter future for not only the children themselves, but the families they will grow to establish, as well as their communities.^{xxii}

Across all sectors, where children are engaged in risk reduction and resilience building actions, our agencies have seen whole communities benefit through increased understanding and action on climate variability and change.

CHILDREN & CLIMATE CHANGE IN THE POST-2015 AGREEMENTS

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Children’s involvement
in these processes
make the agreements
more likely to deliver
for children during
implementation

2015 is a landmark year in the effort to address climate change. Several major international agreements have been finalised in the lead up to COP 21, which are interlinked with the global climate agreement, and will profoundly impact children’s lives.

Three major global agreements have already been finalised in 2015: the *Sendai Framework for Disaster Risk Reduction*; ^{xxiii} the *Addis Ababa Action Agenda*; ^{xxiv} and the *2030 Agenda for Sustainable Development*.^{xxv} Children were more involved in the processes culminating in these agreements than they have been in the past, as reflected in the final outcome documents. Children’s involvement in these processes make the agreements more likely to deliver for children during implementation. Nevertheless, we believe more can be done to ensure children’s voices are heard in decision-making forums, and that the involvement of children is critical to implementing the post-2015 agreements – as is their right under Article 12 of the Convention on the Rights of the Child.

Common to all these agreements is the recognition that children have a right to contribute to creating the future they want as partners in the policymaking and implementation. It is imperative that governments take strong action to protect children and the future they will inherit, and that implementation of the global climate agreement and the 2030 Agenda place children’s needs and capacities at their centre.



01 SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION

Adopted in March 2015, the Sendai Framework highlights climate change as a key driver of disaster risk (para. 4) and recommends integrating disaster risk reduction measures within climate change adaptation programmes (para. 47d). The *Sendai Framework* also highlights children as agents of change who should be given the space and modalities to contribute to disaster risk reduction (para. 36a(ii)). Implementation of the global climate agreement should be in line with the spirit of the *Sendai Framework* and recognise the value of increased engagement of children in risk reduction processes.

02 ADDIS ABABA ACTION AGENDA

In July 2015, The United Nations General Assembly endorsed the outcome of the Third International Conference on Financing for Development – the *Addis Ababa Action Agenda*. The *Agenda* recognises that investing in children is ‘critical to achieving inclusive, equitable and sustainable development’ (para. 7); and highlighted the ‘vital importance of promoting and protecting the rights of all children, and ensuring that no child is left behind’ (para. 8). This represents a significant shift away from the perception of children as passive recipients of social spending to viewing them as drivers of growth and development. The *Agenda* emphasises the importance of equity, in reaching the most vulnerable and integrating climate change and disaster resilience into development financing.

03 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

In September 2015, world leaders agreed to the *2030 Agenda for Sustainable Development* – an ambitious set of 17 global goals with associated targets to track progress. Children’s rights, needs and capacities feature prominently in the *2030 Agenda*. World leaders committed to ‘strive to provide children and youth with a nurturing environment for the full realization of their rights and capabilities’ (para. 25). The global community has also clearly acknowledged that children are ‘critical agents of change’ who will find in the *2030 Agenda* ‘a platform to channel their infinite capacities for activism into the creation of a better world’ (para. 51). This is the strongest acknowledgement to date of the capacity of children to participate in the processes that shape their world. It is a challenge that we must meet.

RECOMMENDATIONS

Children should be a focus of efforts to address climate change, and be active participants in the decision-making processes that shape their present and future. Members of the Children in a Changing Climate coalition call on governments to commit to six priority actions in the implementation of their climate change commitments.

- 01

Recognise the unique needs and capacities of children

Child-centred approaches to adaptation should be included prominently in local and national climate change and development planning processes. Existing adaptation policies, guidelines and strategies should be reviewed to ensure that children are visible, that their rights are being respected, and that the root causes of girls’ and boys’ vulnerability are addressed. Newly developed plans, including National Adaptation Plans, should include child-centred approaches and ensure that children’s rights are integrated into policy implementation.
- 02

Engage children in adaptation decision-making, implementation and monitoring

Children are capable of developing and implementing innovative solutions to complex problems. Local and national decision-makers should provide the space and resources for children to contribute to adaptation actions as well as to develop their own solutions to the specific local climate change impacts that affect them. Children’s views and ideas, and their right to participate in decisions that affect them, must be respected.
- 03

Provide children access to the global stage - and listen to them

As countries implement commitments under the UNFCCC, children should be closely engaged in the design, implementation and monitoring of actions. Children’s monitoring role should include a facility through which they are able to report back to future Conferences of the Parties to help the UNFCCC track progress and promote cross-learning between nations.
- 04

Build a climate change and adaptation literate generation

Under Article 6 of the UNFCCC, governments have agreed that educating, empowering and engaging all stakeholders, including children and young people, is an essential part of the response to climate change. Climate change and risk reduction education helps increase the adaptive capacity of children and their communities, fosters environmental stewardship and contributes to effective adaptation actions. Increasing children’s understanding of the risks of climate change empowers them to influence decisions that affect their safety and wellbeing. Governments should work to integrate climate change and adaptation into school curricula and ensure teacher training programmes include up-to-date and locally-relevant climate change information.
- 05

Focus on the most vulnerable

Adaptation efforts should focus on the most vulnerable groups, including children.. Actions should be based on meaningful, gender-sensitive and inclusive consultations and participatory design processes that result in programmes that fully address the needs of the most vulnerable. Adaptation funding allocations should be based on need, with more funding flowing to local level actions in particularly vulnerable communities and high-risk areas.
- 06

Prioritise community-based adaptation

Governments should prioritise local-level adaptation actions when framing and implementing National Adaptation Plans. Adaptation needs are greatest at the local level, where vulnerable people will be most affected. To date, the majority of adaptation funding has flowed to national-level projects. It is critical that funding for community-based adaptation is significantly scaled up to address priority needs and start closing the adaptation deficit. The specific needs, rights and capacities of children should also feature prominently in local-level vulnerability assessments and community responses.

CASE STUDIES

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Understanding and addressing children’s needs and capacities through child-centred climate vulnerability and capacity assessment
- 02

Integrating climate change and adaptation into school curricula in the Asia-Pacific
- 03

Empowering urban children and communities to manage climate risks
- 04

Creating change through communication: children advocating for action on climate change
- 05

Managing the impacts of climate change on food security at the community level
- 06

Ensuring sustainable access to fresh water in Africa

CASE
STUDY

01

Understanding and addressing children's needs and capacities through child-centred climate vulnerability and capacity assessment

Climate change is a global issue, calling for a comprehensive global solution, however, its impacts are overwhelmingly felt in poor and vulnerable communities in developing countries. While children are disproportionately vulnerable to a broad range of climate change impacts, they are also capable of understanding complex issues and developing innovative solutions.

Many communities and local governments have prioritised the development of adaptation plans to manage the unavoidable and anticipated impacts of climate change. These plans, however, are often drafted by and for adults (often by and for men) and, therefore, do not take into account the specific needs and capacities of children.

Working directly with children to help them better understand their vulnerabilities and capacities

brings a different perspective to traditional climate vulnerability and capacity assessment (CVCA) processes.

Far from merely ensuring decision-makers factor children's needs into planning processes, child-centred approaches to CVCA place children at the centre of the process. There are many variations of child-centred CVCA processes, all including the active participation of children in identifying

vulnerabilities, capacities and adaptation options.

Ideally, child-centred CVCA processes should be run at the same time as broader community-level CVCA processes so that results from child and adult-centred processes can be combined into a single community-based adaptation plan which includes strategies and actions developed and implemented by adults and children. Some child-developed actions can be implemented directly by children, while other actions initiated by children will require adult support.

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Working directly with children ... brings a different perspective to traditional climate vulnerability and capacity assessment (CVCA) processes

ChildFund Australia, a member of ChildFund Alliance, has implemented child-centred CVCA processes in some of the most climate vulnerable communities in Cambodia, Lao PDR, Papua New Guinea and Vietnam. This experience has demonstrated that involving children directly in adaptation planning leads to

increased ownership, more accountability and stronger impact. However, ensuring children are able to participate meaningfully in project development, implementation and monitoring is not always easy. Community elders and most adults initially tend not to believe that children have the capacity or maturity to be involved in these complex processes. With the aim of strengthening the agricultural resilience and adaptive

capacity of subsistence farmers in these communities, ChildFund Australia developed and implemented a participatory CVCA toolkit, including child-friendly participatory rural assessment tools, and created child-friendly spaces for children to freely engage in a safe environment. A significant shift in the community took place, as attitudes changed, and community elders now more readily accept the idea of engaging children in climate change and disaster risk reduction dialogues.

Inspiring local adaptive action through 'green schools'

Participatory community vulnerability and capacity mapping supported by World Vision Indonesia in the Sambas District of West Kalimantan in Indonesia highlighted that low awareness of the need for environmental protection, along with ongoing slash and burn agriculture, was rapidly eroding the sustainability of the region's ecosystems. In the district of East Sumba, less than 10 per cent of the forest cover remained, despite Forestry Department research showing that at least 30 per cent of the region should have forest cover to ensure land and water sustainability over time. Removal of vegetation increases water runoff in the wet season. This causes soil erosion, which, in turn, raises the water table, decreasing the absorptive capacity of the soil and increasing the impact of droughts.

Increasing irregularity of seasons

was further eroding farmers' ability to ensure they grew sufficient food for their families, reduced harvests were resulting in food shortages. While it was mainly adult practices undermining the region's environmental sustainability, the impacts were reducing the entire population's resilience to shocks – and leaving them less prepared for a changing climate. Children were particularly at risk, with their higher susceptibility to food insecurity.

As part of a broader community development and food security initiative, World Vision Indonesia is working with the local education department to increase children's awareness of the impacts of climate change and unsustainable practices on their community, and to catalyse local action. The 'green schools' programme works in concert with the development of local community development plans with the aim of encouraging children to make a contribution to building community resilience.

Under the programme, local teachers were trained to help school children better understand the importance of a sustainable

local environment for their lives and livelihoods. Students have learned about the interrelationships of trees and forests, soils and water, and how their local ecosystems function. A key issue facing communities in the district was the lack of forest cover. A concrete outcome of the green schools programme is the promotion of tree planting by students. Across the district, over 400 children from seven schools have participated in tree planting actions to green their local environment.

One student, 10-year-old Yudi from East Sumba, was inspired to further action after participating in the green schools programme. Yudi initiated a 'child forum' in his village to continue promoting environmental sustainability and climate resilience in his local community. A key outcome of the child forum has been the development of a 'tree for life' project to support the ongoing education of children in the area. To date, the group has encouraged over 400 households to invest in economically valuable trees. The plantations now cover over 150 acres and will help

to both increase community income and protect the soil cover from further erosion. The child forum has also helped spread the message of environmental protection across the community, especially to children, and has organised mangrove planting in coastal areas as well as tree planting to provide shade cover in schools.

Yudi has identified three components critical to the success of the tree for life project:

01 Support of parents and families is crucial to endorse the positive behaviour of children.

02 Support from teachers is required to encourage tree planting in school grounds and for assistance with procuring saplings.

03 Support from local authorities is important to ensure the project has room to expand and that children's contribution to local resilience building is acknowledged and encouraged.



CASE
STUDY

02

**Integrating climate change and adaptation
into school curricula in the Asia-Pacific**

A quality education is a key building block for ensuring children are well-equipped to achieve their life goals. It is also a fundamental requirement for achieving all development goals.ⁱ Governments have repeatedly committed to achieving universal education and ensuring that school curricula equip children to contribute to society.

Climate change can have a critical impact on ensuring all children receive a quality education: it disrupts access, which shapes children's future options and chances for prosperity. Climate-driven disasters, both small and large scale, interrupt schooling. When disaster strikes, schools are often closed, or used as community shelters. When crops fail, children – especially girls – are often kept at home to help out or as a cost-saving measure. Frequent interruptions to education can have long-term impacts on children's ability to reach the necessary educational achievement to thrive in life.

As well as minimising the direct impacts of climate change on access to education systems, a second key challenge is to consider what knowledge and skills today's children will need to thrive in a climate-changed world.

Embedding an understanding of climate change and its implications into school curricula is an essential step to building resilience. As children better understand the causes and impacts of climate change, they will be better able to plan for, and adapt to, the specific impacts felt in their community.

Furthermore, experience shows that children are effective advocates for action on climate change to their peers, parents, community and government. Child-centred organisations are increasing their work with education departments to maximise the benefits of climate education across a range of subject areas and to expand the reach and impact of this work.

Education systems can facilitate the knowledge, skills and behaviour change that successful adaptation requires. Increasing children's knowledge and awareness of likely climate change effects that they will feel locally, as well as relevant and appropriate adaptation options, helps them to make informed decisions about how to adapt.ⁱⁱ It is critical to provide opportunities for children to apply their newly gained knowledge to better facilitate change in communities.ⁱⁱⁱ

In countries around the world, the Children in a Changing Climate coalition members are working with government to develop and roll out climate change and disaster risk reduction curriculum materials in classrooms. Approaches are tailored to each country and local context and include a range of options, including: the infusion of climate change throughout the wider curriculum (integrated in to a variety of subject matters at a number of levels); using standalone climate change learning products as a compliment to the existing curriculum in specific subjects; and integrating climate change teaching into extracurricular activities. Education

activities both within schools and with the wider community are a cornerstone of our collective approach.

**Integrating climate
change into curricula
in the Asia-Pacific**

School-based education on climate change is an important component of Plan International and Save the Children's work in the Asia-Pacific region. In many projects, climate education provides the foundation from which many other adaptation and risk reduction activities and outcomes flow.

In the Philippines, for example, laws passed in 2011 require the inclusion of environmental protection, disaster risk reduction and climate change in basic education. Plan International and Save the Children are working with local education departments to meet these requirements by developing Self-Learning Kits (SLKs) on climate change for a number of subjects, including science and social sciences. SLKs are sets of learner-centred supplementary educational materials on climate change adaptation. The original SLKs were designed for students in grades 5-9 and were implemented in 27 schools across the provinces of East Samar, North Samar and Southern Leyte.

Initially the SLKs were to be used as a lesson module by students in times of emergency and disaster situations, and when classrooms were being used as evacuation centres and, hence, when



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regular schooling was interrupted. However, when Typhoon Haiyan hit in late 2013, the Department of Education realised that disaster risk reduction and climate change education needed to be a stronger part of the curriculum. Across the Visayas, local experts were enlisted to review, refine and adapt the SLKs to the local context. One reviewer, Dr Alejandrito Yman, believes that while Eastern Visayas has been used to typhoons and tropical cyclones in the past, the experience of Typhoon Haiyan proved it is high time for wider climate change concepts to be integrated into basic education, saying “The SLKs made teaching and learning about climate change easy. Now, educating about climate change is more than just an administrative mandate.” The SLKs have now become a core component of regular lessons across several provinces. Through the partnership with the Department of Education, a total of 164 Self Learning Kits (SLKs) have been developed. These kits are now helping to mainstream climate change into the curriculum for children from Grades 3 to 9. Over 400,000 children are expected to benefit from these materials across the Visayas.

In Vanuatu, the government has been working on a review of the educational system, including a curriculum review and reform, which, when finalised, will include cross-curricular components of climate change and disaster risk reduction common to most grade levels. Disasters and climate

change are, by their nature, cross-cutting issues affecting all sectors and all people. Teaching climate change only in science classes (as is the case in many curricula) risks isolating it from the human processes that drive it and the human impacts it inflicts. Including concepts and information on disaster and climate risks and resilience strategies within the cross-curricular components can reduce the likelihood of climate change becoming pigeon-holed as a scientific or environmental issue and ensuring it is communicated across the broad range of subjects upon which it impacts. As part of the wider process of updating the curriculum, disaster and climate change education materials and teachers' guides have been developed and piloted in several primary grades with support from Save the Children. A preliminary evaluation of the teaching materials and learning outcomes has indicated that integrating disaster and climate risks and resilience into the curriculum has been an effective way of improving children's understanding of hazards and disasters and, importantly, their knowledge about how to keep themselves and their communities safe.

In Vietnam, Plan International and Save the Children, together with Live&Learn and the Ministry of Education and Training (MOET) have jointly produced an 'ABC booklet' on climate change for students and a reference guidebook for teachers and facilitators. These resources were approved by the Ministry in mid-2012 and have begun to be rolled out to schools supported by NGO activities. To date, over 450 primary and secondary level teachers from 57 schools in 5 provinces have received training to utilise the materials, and over 16,000 children have received the ABC booklets. MOET has disseminated a further 14,000 books nation-wide in addition to this project. The electronic copy of the ABC booklet is available to download from the MOET's website for teachers. Training of trainers workshops for provincial departments of Education and Training have also been rolled out in 63 provinces and cities throughout the country.

While significant challenges remain in integrating climate change into education systems, the three above mentioned projects^{iv} provide a snapshot of some of the positive examples of the wider work currently being undertaken around the world to integrate climate change into education systems. As more of this work is undertaken, in time, we can hope to see future generations of leaders better equipped to understand and manage the inevitable impacts of climate change.

CASE
STUDY

03

Empowering urban children and communities to manage climate risks

With more than half the world's population now living in urban areas, including over a billion children,^v the challenge of understanding and overcoming the climate change risks facing children in cities is urgent. The urban poor in particular are often forced to live in marginal and risk-prone areas – such as floodplains and river banks – in un- or under-serviced communities. For example, lack of access to sanitation systems and drainage can cause disease outbreaks during flooding brought on by intense rainfall events.^{vi} As temperatures increase, children are significantly more likely than adults to suffer heat stress.^{vii} This can be particularly acute in cities that experience greater than average temperature increases due to the 'urban heat island effect.'^{viii}

Children in cities are also susceptible to the secondary impacts of climate change that may more directly affect their rural peers. For example, if a flood, drought or cyclone damages crops, rural children may face food shortages. Urban children may feel this affect too as crop failures in rural areas often result in food price spikes and shortages in urban markets. A survey of children in urban Indonesia found that children are highly aware of these impacts.^{ix}

While urban children face increasing climate risks, most tools and processes for community-based adaptation programs have tended to focus on rural areas based on traditional rural community development processes. While these participatory

methodologies may, in some cases, be useful in urban areas, this is not always the case. Careful consideration of tools and processes is needed to ensure the right strategies are available and used in the urban context.^x

Empowering the digital generation to reduce climate and disaster risks

Children living in the favelas of Rio de Janeiro, Brazil, face significant climate and disaster risks. Floods and landslides are common, and poor infrastructure and a lack of municipal services increase the risk of hazards becoming disasters. With climate change likely to cause both an increase in frequency and intensity of rainfall over Rio, the favelas could become a much riskier place in which to grow up.^{xi}

A key issue facing communities and local authorities in the favelas is a lack of data. An understanding of the physical layout of a community is crucial to effective adaptation planning. With rapid and unplanned development a constant issue in the favelas, keeping track of structures and hazards is a difficult task.

In response to concerns expressed by children about climate and disaster

risks, UNICEF and the local government developed a child-led digital mapping project. UNICEF, with the Massachusetts Institute of Technology, the Public Laboratory for Open Technology and Science, and Innovative Support to Emergencies Diseases and Disasters, developed a cutting-edge mapping platform that enables real-time data collection through web and mobile applications.

Commencing in 2011, local children were trained in the use of the mapping technology. Children taking part in the project use mobile phones loaded with the mapping software to photograph problem areas they find in their communities – like

blocked drains or congested evacuation routes. The photos

are automatically tagged with GPS coordinates and uploaded to the web where researchers and officials can pinpoint the problem areas.

Children also attached cameras to kites to gather aerial images to capture a different perspective and spot potential issues that may not be as

visible at ground level.

For the pilot phase, 111 children in five favela communities were trained in the mapping technique. The children then presented the maps generated through their photographs to local authorities. Based on their increased understanding of the

climate and disaster risks and strategies to minimise impacts, the children successfully advocated for the repair of a local bridge to facilitate evacuation when required. They were also successful in mobilising their communities to clean accumulated garbage in high-risk areas, helping to prevent landslides and a variety of health hazards.

For project participant Michael, this was a promising start. "We need to believe," he said. "Make it happen and changes will come. This is the idea."

The technique has since spread to other communities in Rio and to other countries (including Haiti, Argentina, Kosovo, France, Bhutan and Madagascar). Children have also expanded the range of issues they map (including environmental degradation, sexual abuse and health). The maps generated by children are available online via the Voices of Youth platform.^{xii}

Integrating risk reduction and resilience into local urban development plans in Indonesia

In the urban area surrounding Jakarta, rapid and unplanned urbanisation and the resulting lack of essential services (including water, sanitation and solid-waste management) are increasing the severity of the impact of flooding and potential sea level rise. Communities living on the banks of the Ciliwung River in Cawang, East Jakarta, are already adapting to the

impacts of flooding – an issue that is set to worsen as climate change increases the frequency of intense rainfall events. To address issues facing urban children, World Vision, through its Urban Learning Hub, has developed guidance on making cities resilient with a focus on child protection.^{xiii}

For these communities, flooding is an everyday part of life, however, as climate change impacts intensify and urban congestion amplifies, the threat to their lives and livelihoods is escalating. In 2007, for example, extreme flooding affected 60 per cent of Jakarta, including Cawang, where flood waters reached up to 9 meters high devastating informal settlements on the river banks. Early warning systems and disaster risk reduction are key adaptation strategies for communities in Cawang as relocating is not often a viable option. To help build the resilience of these communities, World Vision

Indonesia has implemented community risks assessments (including with children), rolled out risk reduction training, and provided local flood early warning systems.

Along with the intensification of rainfall, local practices were found to be a key cause of increased flooding of Cawang communities. Education and awareness raising programmes about the impact of throwing waste into the river were developed and implemented both through schools and via community outreach.

A key outcome of this work has been the effective embedding of risk reduction and disaster preparedness into local planning processes. Cawang communities will always face flooding, and the floods are likely to worsen over time, however, the work World Vision Indonesia has undertaken with these communities has highlighted that with education and action, lives can be saved and livelihoods secured in the face of a harsher climate.



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CASE
STUDY

04

Creating change through communication:
children advocating for action on climate change

Climate change is a key issue facing children and their communities. Getting the message out that we need to start planning and implementing adaptation actions now can be a challenge. The impacts can be difficult to conceptualise, and often seem like a distant challenge. People can also easily be overwhelmed by the size of the challenge.

Children and young people have great capacity to influence change, in both direct and indirect ways. Adults can be highly receptive to messages from children about how they want the world to look, but given social hierarchies, it is often more appropriate for these messages to come through mediums like theatre and stories. As children learn more about the impacts of climate change, develop adaptation ideas and start to put them into practice through child-centred projects, they are well positioned to catalyse behaviour change among their peers, families and the wider community.^{xiv} They can also influence government decision-makers at the local level and beyond.

Children in a Changing Climate coalition members work with children across the globe to build their advocacy skills and to help facilitate their influence on their families, communities and government representatives to help ensure their voices are heard when decisions about climate change are made.

What action do children want to see on climate change?

Plan International recently undertook a broad consultation process to find out what children in Australia and the region think about climate change and what they think should be done about it. Plan International, in partnership with the Oaktree Foundation and the Australian Youth Climate Coalition, talked to more than 500 young people in Nepal, the Philippines and Australia to find out how they feel about climate change, and what they want the governments in developed countries to do to take responsibility for the impact their emissions are having on children around the world.

The message from these consultations was clear: children want strong and urgent action on climate change, and they want developed countries to take the lead in reducing emissions and supporting developing countries to adapt.

“ A healthy environment = healthy future! It's our job to ensure future generations enjoy our world like we have.
ALEX, 16, AUSTRALIA

“ Climate change is the biggest problem in the world ... It is very important to respond to climate change.
MARIACLAIR, 14, THE PHILIPPINES

They are also adept at linking climate change and their rights. They understand that climate change threatens the rights of the most marginalised children across the world – undermining rights to life, health, food and development.

“ Stop climate change, ensure child rights.
TIRTHA, 16, NEPAL

“ We need a home for future generations.
EMMA, 15, AUSTRALIA

The children surveyed were also clear about where they feel the responsibility for action lies.

“ Children are the most vulnerable to climate change. Elders, especially the government officials, should do something to alleviate the effects to both people and the environment.
MONIQUE, 15, THE PHILIPPINES

“ Individuals can do little things [but] governments can enact big policy changes that have a bigger impact.
ALEX, YEAR 11, AUSTRALIA

The need to ensure adequate flows of climate finance to assist developing countries was also a clear theme of children's responses, as was an understanding that there are impacts of climate change that are beyond adaptation.



“ We are all linked. People are more important than money.
KEVIN, YEAR 10, AUSTRALIA

“ Climate change affects everyone. No amount of money can compensate for some losses, so we should prevent them.
HANNAH, YEAR 10, AUSTRALIA

“ The Australian Government should bring further assistance to the poor countries in reducing the impact of climate change.
HT MOAM, 14, VIETNAM

The consultations were developed with, and run by, young people. The findings highlight that children and young people have very clear asks for decision-makers to help safeguard their future. They understand the implications of not addressing climate change and they have a clear sense of what needs to be done to prevent the worst impacts. Children were also clear about how climate change is already affecting them and their peers, however, they were adamant that the priority for adaptation action should be in climate-vulnerable communities in developing countries.

We stand as one: Children, young people and climate change, a report

outlining the consultation findings was released in late October 2015.^{xv}

Getting the message out – children talking to their communities about adaptation

Utilising mass media communication can take adaptation advocacy to another level by helping disseminate stories from any one community to many. In Aurora, in the Philippines, Save the Children has worked with children to develop, produce and present their own weekly show on climate change which is broadcast on local radio. During the shows, children facilitate discussion around the science of climate change, disaster preparedness, the impacts of climate change on children's rights, weather information and adaptation efforts in communities and schools. Climate change adaptation and disaster risk reduction experts are often invited onto the shows to talk about climate change and answer phone or text questions from listeners. Research has found that such interactive programming creates a platform for two-way exchanges and learning, boosting the uptake of information.^{xvi}

Aurora high school student, Johnber, was one of the first students who trained

to become a Bulilit Brodcaster in 2013. Through his participation Johnber overcame his shy nature and nerves, and built his confidence in public speaking and leading important conversations around climate change. As a Bulilit Brodcaster he developed advocacy strategies to inform and engage his 17,000 listeners and employed his newfound local fame to positively influence his peers and community.

Johnber's passion and enthusiasm for sharing the message of climate change, adaptation and disaster risk reduction has taken his action to a national level. Since graduating from high school, Johnber continues to utilise the skills he has learned and confidence he has gained by working on the INC-TV Videography Team, editing interviews, music videos and documentaries. INC-TV is a Philippine National TV Station owned and operated by the religious group Iglesia ni Cristo. It services millions of members of the Iglesia in the Philippines and around the world.

“Some of my videos include issues on child rights and climate change because these are topics more people, especially children, should be aware of,” said Johnber.

We need to capitalise on children's knowledge, capacity and willingness to advocate for things they believe in to help vulnerable communities better understand the risks they face and the adaptation options available to them.^{xvii}

CASE STUDY

05

Managing the impacts of climate change on food security at the community level

Climate change is projected to have significant impacts on agriculture world wide, with the worst impacts in the mid-latitude regions. These impacts are projected to become increasingly severe as temperatures increase.^{xviii} Climate change is already impacting on the food security of climate-vulnerable communities in developing countries – most particularly in Sub-Saharan Africa and South Asia.^{xix} Access to adequate nutrition is already affected by climate variability and extremes, and is set to worsen as climate change impacts intensify.

Children are particularly vulnerable to climate-related food insecurity.^{xx} A lack of access to nutritious food in childhood can have lifelong impacts on children's physical and mental capabilities.^{xxi} Millions of children around the world already struggle to get sufficient nutrition in their daily diet. With climate change reducing the viability of current agricultural practice in many places, the availability of fresh nutritious foods will be placed further at risk. Crops that have sustained families for generations are increasingly under pressure as seasons are changing and the periods and intensity of rainfall and sunshine are changing.

“A lack of access to nutritious food in childhood can have lifelong impacts on children's physical and mental capabilities”

Animals that used to thrive in certain locations are now threatened by disease or unable to tolerate longer cold spells. Increasing shocks and disasters are also making it increasingly difficult to maintain traditional livelihoods.

Helping remote communities in Nepal become food secure in a changing climate

The impacts of climate change on food security are already being felt in developing countries, including in communities in the remote Julma district of Nepal. Children in Julma suffer from chronic and acute malnutrition, caused, in part, by crop failures from increasingly irregular rainfall and extended droughts. Increasing incidences of intense rainfall have also led to flooding of homes and crops, further undermining livelihoods and food security. Farmers in the district have started converting rice paddies to apple orchards in order to diversify incomes and take advantage of changes in the weather.

World Vision Nepal has been working with communities in Julma since 2003 to help increase food security and nutrition outcomes for children and their families. Due to the lack of reliable climate projections

at the district level in Nepal, community members and World Vision Nepal staff have worked to understand specific vulnerabilities at household and community levels and overlaid this analysis with a wide range of climate projections to ensure activities will result in beneficial outcomes across a range of climate futures. Based on community and household analysis, World Vision Nepal's work in Julma has focused on alleviating food insecurity through improving land management, maximising agricultural diversity, changing consumption patterns and developing appropriate surplus management programmes.

Key activities implemented to date include:

- ◆ terracing previously cleared mountain slopes to increase the amount of land available for agricultural production;
- ◆ construction of greenhouses to raise tree saplings and increase the duration of the growing season;
- ◆ increasing use of compost and seed saving to ensure the viability of newly established apple orchards;
- ◆ construction of cellars to safely store apples before they are transported to market; and
- ◆ improving roads to increase reliability of access to markets.



Communities in the district are seeing benefits from the shift to more effective growing techniques and storage of their apple production. Whereas, previously, more than half the district's apples spoiled before they could be sold due to unreliable storage and inaccessible transport, farmers now say they have nearly zero wastage. They are also able to sell apples out of season due to the storage cellars and can attract up to four times the normal price. Farmers also report yield increases of 50-100 per cent as a result of the terraced slopes. Crops like barley, wheat, beans, potatoes, maize and apples are now grown locally for consumption and for the market. "Some community members only had one [purchased] meal of rice or bread per day... now we alternate between white rice and bread made from our own locally grown grains. In addition we now eat a range of cereals and vegetables that we did not eat before" (Patmara, member of a seed-saving group, Jumla district).

Community education and changes in dietary consumption have resulted in a significant reduction in the number of underweight children in the district. Community members are now more aware of the impacts of climate change on their livelihoods and their children's nutrition, and are better placed to manage these effects.

Developing nutrition resilience and resilience for nutrition in Kenya

As the impacts of climate change accelerate, more children will be placed at risk of food insecurity and malnutrition. Even without the additional stress of climate change on agricultural systems in the Horn of Africa, food security remains a challenge and malnutrition a serious threat to long term development. As such, children in vulnerable communities in Kenya face an adaptation deficit – many struggle to access adequate nutritious food even in the

absence of climate change impacts. Dealing with malnutrition in a changing climate will therefore require more than responding to crises after they occur. In Kenya, UNICEF, with partner Concern Worldwide, has trialled a tri-track approach to develop nutrition resilience and resilience for nutrition. This approach addresses both acute and chronic nutrition deprivation at the same time to build a foundation for increased resilience to future shocks. Surge capacity in health systems is simultaneously enhanced to ensure timely and effective response to specific emergencies as they arise. Children who are already beset by health issues generated by malnutrition will struggle to deal with the increased burdens of climate change on their communities. Projects like this one are strengthening the foundation for healthy children and communities to help ensure they are better prepared to face future climate change impacts.

CASE
STUDY

06

Ensuring sustainable access to fresh water in Africa

Access to fresh water and sanitation services remains a critical roadblock to achieving sustainable development. As of 2015, over 660 million people lack access to improved drinking water, while 2.4 billion people do not have access to adequate sanitation.^{xxii} By 2020 up to an additional 1.7 billion people could be living with severe water stress due to the impacts of climate change.^{xxiii} In this context, the lack of access to water impacts on all elements of children's lives – this includes health outcomes and access to education, which in the long term will shape their future options and quality of life.

The challenge of sustainable access to water is particularly acute in parts of Africa, including in the Sudan, where UNICEF has been working with communities to tackle the problem since 2010, with support from the Government of the Netherlands.

In Blue Nile State in the south east of Sudan, while around 70 per cent of the population has access to an improved water source, nearly half of this population rely on diesel generators to pump ground water. Affordability and availability of fuel has become a key constraint in the sustainability

of these water sources, resulting in many households traveling long distances to access unprotected water sources.

Given that diesel generators were proving to be economically and environmentally unsustainable, UNICEF is promoting an alternative solution – solar water pumps.

Solar water pumps are an efficient and sustainable technology to meet the needs of communities lacking

access to modern electricity grids. The systems have several advantages over diesel pumps: they are simple to install, require no fuel and have low maintenance requirements; they are able to work with boreholes with low yield or slow recharge as they can work during all sunlight hours with

no fuel costs; and they have extremely low ongoing costs and require minimal time commitment from communities.

Through this project, solar pump systems were installed in 27 communities, with an additional 27 pumps installed in community schools. Nearly 55,000 people now have access to a sustainable source of improved water, including over 7,000 children in schools. The project was also able to install solar panels on school roofs to power classroom lights.

“

Children are much more than passive victims of climate change - they are powerful agents of change

Outcomes

Children and their families in 27 communities in Blue Nile State now have sustainable access to improved water. The initial impact of the project has been a substantial reduction in the time women in the communities spend fetching water for their households. Women were previously travelling up to seven kilometres to access unprotected water sources. Families are now able to access more water. This will contribute to improvements in hygiene and a lower risk of water-borne diseases.

The solar pumps will also help reduce the impacts of climate change on community water availability. Provided the resource is used sustainably, ground water recharge should be sufficient for continued use under most climate change scenarios,xxiv and rising fuel costs will not impact pumping operations. An added bonus is that solar pumps do not contribute to greenhouse gas emissions.

The project has been so successful that UNICEF is now converting existing diesel pumps across the country to solar pumps and all new water projects will utilise solar pumps.



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CHILDREN IN A CHANGING CLIMATE COALITION

The Children in a Changing Climate (CCC) coalition is a partnership of five leading child-centred development and humanitarian organisations: ChildFund Alliance, Plan International, Save the Children, UNICEF and World Vision International. We have a commitment to share knowledge, coordinate and work with children as agents of change, in full recognition of their capacity to prepare for and respond to shocks and stressors. The mandate of the CCC coalition is to advocate for and promote the rights of children in global agreements.

As child-centred organisations, CCC coalition members believe that addressing climate change is fundamental to safeguarding children's rights. Strong and urgent action is required if we are to ensure our children inherit a world with greater opportunities for prosperity and wellbeing. And, with serious impacts now unavoidable, we believe that child-centred adaptation should be a key component of the global response to climate change.

While many governments and development partners, including the United Nations, have worked to address climate change, children have been under-represented in multilateral and national discussions to date. This must change if we are to enact the words contained in the post-2015 agreements and empower children to create a better world. Members of the CCC coalition will continue to work with and for children to ensure their voices are heard, their needs met and their rights and capacities to act strengthened as the world strives to address the threat of climate change.