CLIMATE LANDSCAPE ANALYSIS FOR CHILDREN IN THE PHILIPPINES

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Published by UNICEF Philippines

July 2017

Authors: Javier Bornstein Ortega and Christine Klauth

Cover photo by Jeremy Bayaya

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ACRONYMS

CEE	Climate, environment and energy
CO	UNICEF Country Office
COP	Conference of the Parties
CP	UNICEF Country Programme
CPD	UNICEF Country Programme Document
CRC	Convention on the Rights of the Child
DENR	Department of Environment and Natural Resources
DepEd	Department of Education
DRR	Disaster Risk Reduction
GDP	Gross Domestic Product
ILO	International Labour Organization
IPs	Indigenous Peoples
INDC	Intended National Determined Contributions to the UNFCCC
LGU	Local Government Unit
NCCAP	National Climate Change Action Plan
NFSCC	National Framework Strategy on Climate Chance
RA	Republic Act
SitAn	Situation Analysis
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
WFP	World Food Programme
WHO	World Health Organization

PREFACE

Climate change and environmental degradation undermine children's rights around the world. In UNICEF's mid-term review of its Strategic Plan in 2015, climate change emerged as one area to emphasize in the lead-up to the next Strategic Plan (2018-2021). Therefore, in March 2016 the UNICEF Executive Director issued an Executive Directive "Addressing the Impact of Climate Change on Children", instructing all UNICEF Country Offices to incorporate climate change and related issues in their Country Programmes by 2020.

In response, UNICEF Philippines, together with UNICEF Headquarters (Division for Data Research and Policy) have prepared this 'Climate Landscape Analysis for Children' report, through a combination of desk research, literature review, and key informant interviews. It provides the essential baseline information on the climate, environmental and energy issues affecting children.

This report follows the UNFCCC definition of climate change, which reads "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods."

METHODOLOGY AND LIST OF PARTNERS INTERVIEWED

This Climate Landscape Analysis for Children was jointly prepared by UNICEF Headquarters and the UNICEF Philippines Country Office. The findings come from a combination of desk research, literature review, and interviews with key government partners and staff from UNICEF Philippines and other UN agencies. Local Civil Society Organizations, together with international non-governmental organizations were also consulted. During a field visit to a UNICEF funded Disaster Risk Reduction project in Itogon (Benguet), data was collected through interviews and focus group discussions with children and community leaders.

For the desk review, the report relied primarily on official reports and documents from the Government, Multilateral Development Banks and UN agencies, including:

- Republic Act 9279 'Climate Change Act', 2009
- National Framework Strategy on Climate Change (2010-2022)
- National Climate Change Action Plan (2011-2018)
- Climate Change in the Philippines, Department of Science and Technology-Philippine Atmospheric, Geophysical and Astronomical Services Administration, 2011
- Getting a Grip on Climate Change in the Philippines, World Bank, 2013
- Philippines Second National Communication to the UNFCCC, 2014
- UNICEF Philippines 7th Country Programme (2012-2016)
- UN Philippines Disaster Risk Reduction and Management and Climate Change Adaptation Joint Programme, 2016

Resource persons and organizations contributing to the preparation phase of the Climate Landscape Analysis for Children include:

- UNICEF Country Office staff
- UN Partners: UNDP, WFP, FAO, ILO
- Government of the Philippines: Climate Change Commission, Departments of Education, Finance, Energy, and Environment and Natural Resources
- International non-governmental organizations: Oxfam
- Local civil society organizations: Citizen's Disaster Response Centre, Center for Disaster Preparedness, YesPinoy Foundation, Tebtebba, Climate Change Network for Community Based Initiatives, Center for Environmental Concerns, Philippines Disaster Relief Foundation
- Field visit to Itogon (Benguet): coordinated by partner civil society organization Cordillera Disaster Response and Development Services

EXECUTIVE SUMMARY

Climate change exacerbates the many threats to children's wellbeing, survival and access to services in the Philippines, including education, water and sanitation, nutrition and health. Dengue and malnutrition are becoming more prevalent in the Philippines, and this trend is projected to continue because of climate change. Climate change also heightens the risk of vector- and water-borne diseases, including diarrhoea. In addition, the Philippines is seeing a higher incidence of heatwaves, wildfires and droughts, and the intensity of typhoons has been rising. Sea level rise, deteriorating livelihoods dependent on agriculture and fishing, and increasing competition over scarce natural resources can act as drivers for migration, internal displacement and conflict. This can uproot whole families and undermine children's right to a safe home. Often, one parent may be migrating to take up work elsewhere. While this can bring in income and benefit children's welfare, parental absence has also been linked to child protection concerns and exposure to violence, exploitation, abuse and neglect.

The impact of climate change and environmental degradation is particularly evident in coastal areas. The observed and projected sea level rise in the Philippines exceeds the global average significantly–by at least 10%. The majority of the population lives in the immediate vicinity of the coast, and 13.6 million people could be forced to relocate due to sea level rise. Children living on small islands are especially in danger, and face a future that may see their small islands being submerged. Climate change will also affect large child populations in the islands of the Sulu Archipelago in the south.

Informal urban settlements see multiple children's vulnerabilities converging. About 60% of the Filipino population lives in low-lying coastal cities, exposed to storms and storm surges, and children in informal settlements are especially vulnerable. Climate change stands to heighten these impacts, many of which are more pronounced in urban areas, such as flooding, heat waves and dengue. Other characteristics of informal urban settlements simultaneously exacerbate children's vulnerability and undermine their ability to cope, including: poverty; congested housing and transportation; inadequate waste management; pollution of land, water and air; a lack of access to basic services; and an absence of decent and safe public spaces.

Environmental degradation compounds the impacts of climate change so that ecosystems are less able to respond and adapt to them. Environmental degradation such as coastal pollution, watershed and groundwater pollution, air pollution, deforestation and destructive mining practices are widespread. While the Philippines is one of the most biodiverse countries in the world, accelerated environmental degradation seriously threatens endemic species, and compromises the ability of ecosystems to respond to the impacts of climate change (for example, by storing water, providing shade and withstanding storms), and to adapt to changes and contain diseases.

Air pollution is a growing threat to child health. The World Health Organization has identified outdoor and indoor air pollution as a priority health issue for the Philippines. Largely caused by inefficient and prolific wood burning for cooking and heating on open fires, air pollution predominantly affects women and children. Outdoor air pollution is caused by forest fires, slash and burn agriculture, waste burning and–mostly in urban areas–transportation. Despite protective laws and policies, the issue has proved challenging to address. The country needs to step up efforts to reduce air pollution by, for example, investing in sustainable and clean energy solutions for cooking, heating and transportation, and stopping the open burning of domestic and agricultural waste, and to limit children's exposure, better monitor air pollution, and provide timely, accurate and useful information to the population.

The Philippines is the third largest source of plastics in the ocean, stemming from collected and uncollected waste. Despite having the highest waste collection rate in the region, the Philippines' waste management system has not kept pace with the amount of waste produced by the growing population and its consumption of plastics. Ocean plastics break up into tiny pieces called 'microplastics'. Concentrations of microplastics in East Asian Seas are found to be 27% higher than the global average. Ocean debris is a known contributor to the death of marine animals. Harmful chemicals contained in plastic enter the food chain and are released into the atmosphere. These chemicals can interfere with the human hormonal function and are known to cause cancer, birth defects, immune system problems and childhood developmental issues. How these toxins accumulate in the food chain and the human body and impact upon our health is still largely unclear.

Youth must be enabled to deepen their knowledge of, and gain skills related to, climate change adaptation and environmental sustainability. While there is a general awareness of climate change and its causes and implications among Filipino children and youth, this knowledge is not deep enough. Young people should be equipped with the skills and knowledge needed to shape and participate in the transition to a low-carbon society. This includes being aware of sustainable consumption patterns, ways to adapt to climate change and long-term planning, as well as sustainable solutions for transport, the built environment, energy generation and waste management. Children and youth must be trained to benefit from the employment opportunities that climate change adaptation and low-carbon development efforts bring, and to be able to take advantage of emerging occupation opportunities and the green jobs associated with them.

Even though the Philippines – and especially its children and youth – are minor contributors to the greenhouse gas emissions that cause climate change, low carbon development offers the country significant benefits and should not be neglected. Electrification and access to energy do not reach all Filipinos, particularly those on remote islands and in mountainous isolated areas. In these regions, access to renewable energy could improve the quality and resilience of health, education and water services for children. It could also reduce inequality compared with electrified communities and spur economic growth. Youth should benefit from efforts to mitigate climate change and knowledge of climate change and sustainability issues. Solar power systems – when well designed and constructed – can also increase the resilience and cost-effectiveness of energy services in remote areas that are prone to storms.

Indigenous children have a special stake in environmental sustainability. This is because their communities depend on natural resources to enable their traditional livelihoods and ancestral traditions, including the food they eat and the medicine they use. They may no longer be able to follow the ways their parents and grandparents made their living, due to biodiversity loss, environmental degradation and climate change. Indigenous children, especially in remote locations, are also denied the opportunities that economic development brings. Therefore, we have a responsibility to empower them with the skills needed to flourish in this rapidly changing environment and become the agents of change to protect their environment.

National policies and the child-specific considerations in them are not seen locally. While there is some recognition of the need to address child-specific vulnerability at national level, there is room for improvement. There is limited capacity and support at local government level to conduct climate change planning. Neither are there tools or assessments available to identify exactly how children are vulnerable and what form the response should take. Child-sensitive planning, design and budgeting have been largely absent from the mechanisms that allocate funding and implement climate change projects.

Recommendations

The increasing impacts of climate change and environmental degradation are undermining the progress being made with children's rights in the Philippines. Unless appropriate action is taken, this is likely to affect the sustainability of the results achieved so far by the Government and the development community. The following overall recommendations have emerged from the analysis. For a more detailed version of these, see section 7.

1) Ensure the mainstreaming of CEE into the policies, strategies and programmes of Government departments.
2) Advocate for policies that respond to the priorities and specific vulnerabilities of children and youth regarding CEE.
3) Work towards more integration and collaboration in CEE programming between Government departments.
4) Invest in training and capacity building in CEE issues.
5) The potential of youth should be maximized as actors and champions against climate change.

The Philippines ranks among the top five countries most vulnerable to climate change impacts

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1 The climate, environment and energy situation in the Philippines

1.1 The current climate, including variability, and climate-related disasters

Climate-related threats and disasters

Climate-related hazards in the Philippines include tropical cyclones, storm surges, heavy rains, floods, landslides and droughts.

About 19 to 20 tropical cyclones (typhoons), on average, affect the Philippines each year, with 7 to 9 making landfall. Those coming from the south-east are usually particularly devastating (Samar, Leyte, eastern Quezon province, Batanes islands and Luzon are particularly exposed).[1]

The Manila observatory identifies Sulu, Basilan, Maguindanao, Lanao Del Sur and Lanao Del Norte as the most drought-prone provinces in the country.[2] Droughts cause shocks among households, particularly those reliant on agriculture, damaging their livelihoods and making them more vulnerable to health issues. In

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addition to water shortages and crop failure, drought conditions increase the risk of forest fires, reduce hydropower generation and access to electricity, and dry up fishponds.[3,4]

El Niño-Southern Oscillation

El Niño and La Niña are two phases of the El Niño-Southern Oscillation, and both phenomena regularly affect the Philippines. Droughts in the Philippines are associated with El Niño years,[5] with central and western Mindanao particularly at risk.[6] La Niña, affects the Philippines during June, July and August. It has the opposite effect to El Niño, bringing unusually cold and wet conditions.[7]

Water levels are projected to rise between 7.6 and 10.2 cm every 10 years in the Philippines, compared to the global average of 3.1 cm

1.2 Observed and projected changes in the climate and related impacts

The Philippines usually ranks among the top five countries most vulnerable to climate change impacts.* In addition, the country is also vulnerable to slow-onset hazards such as sea level rise, coral bleaching and salinization of soil and freshwater resources.[8]

However, this pattern has been changing in recent years, with more typhoons arriving in the last quarter of the year.[9] Climate change is expected to increase the intensity of these storms, as well as the amount of rainfall they bring, leading to more floods, landslides and mudslides.[10] Furthermore, climate changed has modified typhoon patterns, with more affecting the southern island of Mindanao, which has historically been safe from tropical cyclones (see Annex 1).

In the Philippines, there has been a 0.010 °C mean annual temperature increase per year between 1951 and 2010, mirroring the trend across Southeast Asia.[11] The Philippines have been experiencing more extreme and warmer conditions, with more hot days, and hot nights.[12] If the Philippines goes on as it is (relying on an 'energy mix')* the projection is for an increase of between 1.8°C and 2.2°C by 2050.[13] Temperatures appear to be increasing more rapidly in the southern part of the archipelago.[14] Occurrences of temperature extremes – involving longer and hotter heat waves – are expected, with the South again particularly exposed[15] (see Annex 1).

Recent increases in the variability of rainfall patterns,[16] as well as in the intensity and amount of rainfall experienced are also attributed to climate change.[17] It is predicted that climate change will further increase the amount of rainfall during the rainy season. Typhoons are likely to become more intense, with more precipitation and higher wind speed.[18] Projections see the intensity of storm surges, floods, droughts and ocean acidification rising with climate change. More frequent forest fires have also been reported.[19]

The Philippines is also particularly exposed to sea level rise and storm surges. Water levels are projected to rise between 7.6 and 10.2 centimetres every 10 years, compared to the global average of 3.1 centimetres. Coastal populations, which face a combination of sea level rise, stronger typhoons and storm surges, are especially vulnerable. Estimates indicate that more intense typhoons and storm surges will affect about 42% of the coastal population.[20]

Particularly vulnerable population groups are: coastal urban populations, especially informal coastal settlements; small island populations; and families practicing agriculture and fishing at subsistence level.

* E.g. Index by Germanwatch (2016); index by the Alliance Development Works and UNU-EHS: World Risk Report 2014; in the recent Maplecroft index, it dropped to place 8 thanks to improvements in DRM, reduced dependence on the agricultural sector and better access to clean water

* The scenario is called the 'A1B scenario'. See https://www.ipcc.ch/ipccreports/tar/wg1/029.htm


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1.3 Other relevant environmental issues

Environmental Degradation

Uncontrolled deforestation (especially in watershed areas), mining, and pollution of air, water and soil are the most widespread forms of land-based environmental degradation in the Philippines,[21] heightening its vulnerability to climate change impacts. Of the 27.5 million hectares of forest cover in the late 1500s, only 7.2 million hectares remain.[22] This has led to the destabilization of the soil cover, leading to increased susceptibility to landslides, mudslides and erosion.

The Philippines is one of the most biodiverse countries in the world, but over 800 species are threatened by extinction, so adaptation is critical.[23]

Rapid urbanization and air and water pollution in major urban centres are further key factors undermining the health and resilience of the urban population. The lack of adequate infrastructure (for example, drainage and solid waste management systems, including for hazardous waste) elevates the danger of floods and storm surges, and simultaneously undermines coping capacity.

Mining causes widespread ecological and social damage. In Mindanao, gold mining, which can release highly toxic substances into the air, land and water,[24] is associated with decreasing productivity in the farming and fishing industry, and adverse health impacts, including skin infections. Excessive logging and mining in Mindanao have also increased its vulnerability to flash floods.[25] Unregulated mining is still widespread, and involves highly hazardous working conditions and more harmful physical, social and environmental consequences for children.

Marine Environment

Marine and coastal resources – including coral reefs, mangrove forests and seagrasses – are also being degraded and depleted by the impact of climate change, overexploitation and pollution. Meanwhile, demands on marine resources are increasing as populations and incomes rise. This is undermining the livelihoods of fisher folk.[26]

Air pollution

Some 54% (rural: 71%; urban 34%)[27] of the Philippine population uses solid fuel (mainly firewood and charcoal)[28] for cooking, affecting over 47 million people with indoor air pollution. Indoor air pollution is one of the main drivers behind acute respiratory infection – one of the three biggest killers of the under-5s in in the Philippines.[29] Acute respiratory infections in children and women over 30 cost the Philippine economy approximately 1,255 million PHP per year.[30]

Emissions from transport and waste burning are the main sources of outdoor air pollution in the Philippines.[31] Enforcement of the national air quality standards remains a challenge[32] while there are no large-scale sustainable solutions for traffic and waste management.

Waste management

Collection rates in the Philippines are the highest in the region (85%).[33] However, only 10% of the waste in Metro Manila is composted, re-used or recycled.[34] Inadequately managed waste contributes to the contamination of water and soil and leads to air pollution. It can also cause standing water, leading to mosquito infestations and the spread of vector-borne diseases. Uncollected waste can exacerbate natural hazards by clogging the drainage systems of water bodies, causing floods and polluting major water resources. In large urban areas, neglected drainage systems and expansion of informal settlements and damaged watersheds significantly exacerbate flooding and swamping.[35]

The Philippines produces an estimated 2.7 million metric tons of plastic waste annually. With one of the fastest growing economies in Southeast Asia, demand for consumer products has been rising with people's spending power, and the waste management sector cannot keep up. The Philippines is the third largest contributor of plastic in the ocean, amounting to 0.5 million metric tons per year.[36] Ocean debris contributes to the death of marine animals, and affects the livelihoods of fisher folk. Harmful chemicals contained in plastic enter the food chain or are released into the atmosphere, and can interfere with human hormonal function and cause cancer, birth defects, immune system problems and childhood developmental issues.[37, 38]

Interviews with children and community members from Itogon (Benguet province) made during a field visit for this report showed that a considerable amount of waste, including plastic, is being burned. The reason seems to be not a lack of awareness, but rather convenience, and the long distance to refuse pick-up places.

Water contamination

Urban and rural water contamination and industrial and household pollution, including faecal and chemical presence in water bodies, can affect human health. Water pollution in the Philippines is largely caused by inadequately treated domestic wastewater and sewage (48%), agricultural wastewater (37%), and industrial wastewater (15%).[39] In 2003, a reported 50 of the 421 rivers in the Philippines were considered "biologically dead", mainly due to industrial effluent.[40]

Only 10% of wastewater in the Philippines is treated, leading to 58% contaminated groundwater. About 4,200 deaths are caused by contaminated drinking water every year.[41]

It is also projected that by 2025, water availability will be marginal in most big cities, and in 8 of the main 19 river basins.[42]

Some 70 million tons of mercury – used in gold mining –is discharged into the environment each year. contaminating rivers and accumulating in fish, affecting health of the whole community.[43] All 163 children examined in a health assessment of mercury exposure demonstrated abnormalities.[44]

1.4 Energy access

In 2009, 12.5% of the population of the Philippines did not have access to electricity. While household electrification stands at 89%,[45] access to electricity is significantly lower in Mindanao (70%). Indigenous communities in particular often have no access to electricity, even for schools and health facilities.[46]

The main sources of energy in the Philippines are oil (30%), coal (24%), (non-biomass) renewables (20%), bioenergy (18%) and natural gas (7%).[47] Because hydropower is an important source of electricity in the Philippines, climate change and the El Niño phenomenon stand to exacerbate energy shortages by decreasing precipitation.

1.5 Attitudes and behaviour towards climate, environment and energy (CEE) in the Philippines

Climate change is an increasingly present issue in public discussion and the media, and 72% of Filipinos perceive climate change as the biggest global threat.[48] However, a World Bank survey revealed that while 85% of Filipinos have suffered the effects of climate change, only 12% have extensive knowledge of it. Furthermore, even if many Filipinos report experiencing the effects of climate change, 63% have not participated in efforts to reduce the risks resulting from climate change, and 68% have not engaged in efforts to reduce CO2 emissions.[49]

2 Government responses to and priorities for CEE

2.1 CEE policies and strategies

Climate Change and Environment

"The State shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature." Philippine constitution of 1987.

The Philippines has ratified and/or become a party to the various climate- and environment-related UN conventions and protocols since the creation of the United Nations Framework Convention on Climate Change (UNFCCC).[50] In 2014, it submitted its Second National Communication to the UNFCCC, which details directions for climate change programmes and integrating climate-resilient development goals. In October 2015, the Government committed to a 70% reduction of greenhouse-gas emissions by 2030 relative to a 'business-as-usual' scenario.[51] The administration of President Rodrigo Duterte signed and the Paris Agreement in February 2017, and it entered into force on 22 April.[52]

Institutionalisation of climate change into government policies and programmes began in 2009 with Republic Act 9729, commonly referred as the 'Climate Change Act'. This set the scene for the creation of the Climate Change Commission, tasked with formulating climate change strategies, policies and action plans, and overseeing the incorporation of climate change into all other government departments. Accordingly, in 2010 the CCC published the National Framework Strategy on Climate Change (NFSCC) (2010-2022). This translated into the National Climate Change Action Plan (2011-2028) in 2011. The key areas of the NFSCC concern low-carbon development and climate change adaptation (Table 1), and relate to cross-cutting strategies including education and knowledge management.

The National Economic Development Authority is coordinating the new Philippines Development Plan (2017-2022), and it is expected that climate change, disaster risk reduction (DRR) and resilience will feature prominently.

The Climate Change Act mandated all Local Government Units (LGUs) to craft Local Climate Change Adaptation Plans. The Plans must include a budget for climate change initiatives. By February 2017, 682 out of 1,490 LGUs had submitted Local Climate Change Adaptation Plans.

The Government established the People's Survival Fund through Republic Act 10174 to finance climate change adaptation programmes and projects. The Fund is dedicated to LGUs and local Civil Society Organisations, which must submit funding proposals to the Climate Change Commission together with their Local Climate Change Adaptation Plans. Although 1 billion pesos have been allocated to the People's Survival Fund, to date, only two project proposals have been approved.

Table 1. Key NFSCC areas

LOW CARBON DEVELOPMENT/CC MITIGATION	ADAPTATION
Energy efficiency and conservation	Enhanced vulnerability and adaptation assessments
Renewable energy	Integrated ecosystem-based management
Environmentally sustainable transport	Water governance and management
Sustainable infrastructure	Climate-responsive agriculture
National reducing emissions from deforestation and forest degradation (REDD+) strategy	Climate-responsive health sector
Waste management	Climate-proofing infrastructure
	Disaster risk reduction

The Philippine Clean Air Act of 1999 includes a section on greenhouse gas emissions and provides a framework for a programme to address air pollution. A number of laws and policies for air quality are also in place. Other important pieces of legislation are the Solid Waste Management Act) and the Philippine Clean Water Act. In 2016, the Government adopted the Green Jobs Act, law promoting the creation of jobs that contribute substantially to preserving the quality of the environment.

The Philippines has adopted the Hyogo Framework for Action (2005-2015) and reconfirmed its commitment to the Sendai Framework for Disaster Risk Reduction (2015-2030).[53] RA 10121, the Disaster Risk Reduction and Management Act, marks a shift from disaster response to preparedness and an emphasis on LGUs. It requires a Disaster Risk Reduction and Management Office in every province, city and municipality, and a Barangay Disaster Risk Reduction and Management Committee in every barangay.[54]

Climate change adaptation in sectoral policies

Health

The Philippines adopted the National Framework on Climate Change and Health in line with the NFSCC, the National Climate Change Action Plan (NCCAP) and World Health Assembly resolution on climate change and health of 2008. This was followed by the creation of a technical committee on the issue, a climate change unit at the Department of Health and the Department of Health National Policy on Climate Change Adaptation for the Health Sector, which instructs LGUs to address health as it relates to climate change in their health plans.[55] The National Climate Change Adaptation in Health Strategic Plan for 2014-16 was also adopted for 2012-2016, under which children are mentioned in the context of vulnerability to air pollution. The Plan also tasks the community-based support system to identify and respond to the special climate-related needs of infants and pregnant women.

Water

The Climate Change Act recognizes the water sector as a priority in the response to climate change that requires further investment. The NCCAP covers how national and local governments should tackle climate change adaptation in the sector, including: community access to water; climate-related water-borne health risks; and improved planning and information systems.

Education

The Climate Change Act requires the Department of Education (DepEd) to integrate climate change into the primary and secondary education curricula and learning materials. The NCCAP recognizes the need to integrate climate change into basic and higher education curricula and materials and teacher training.

Energy

Household electrification in the Philippines stands at 89%. However, there are stark regional disparities. In Mindanao, 30% of the population has no access to electricity. The Philippines aims to achieve 100% access to electricity by 2022. However, even with connection to the grid, many communities, predominantly in Mindanao and remote islands, are subject to rolling brownouts.[56]

The Philippines has strong interest in low-carbon development strategies, such as total electrification and more reliable electricity access, as a way of achieving national development goals. The Government sees this as a priority for cooperation in the Asia Pacific region, which is facing mounting climate change impacts.[57]

The Philippines has adopted a three-pronged approach to fully harnessing the climate change adaptation benefits of low carbon development strategies: renewable energy; energy efficiency; and alternative sources of energy for transportation. The Department of Energy is currently drafting its Energy Sector Roadmap.

Key policy documents are:

- Republic Act 9513, promoting renewable energy resources, such as biomass, solar, wind, hydro, geothermal and ocean energy sources, including hybrid systems, to reduce reliance on fossil fuels and make energy access more reliable.
- The Energy Strategic Plan for 2017-2040 also promotes a low carbon future.
- A nine-point programme for 2017-2022 that includes 100% electrification by 2022.


While 85% of Filipinos have suffered the effects of climate change, only 12% have extensive knowledge of it
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2.2 Ongoing CEE initiatives

The Philippines has several climate change initiatives, but none directly address children's specific vulnerability to climate hazards. Although 53 National Government Agencies have budget proposals for climate change spending the World Bank Climate Change Expenditure Review (2008-13) revealed that climate change appropriations represent only approximately 0.3% of GDP.

Climate expenditure focuses on the following NCCAP priorities: Water Sufficiency; Ecosystem and Environmental Stability; and Food Security. Development partner support has prioritized flood control and water-related investment under the Department of Public Works and Highways, and played an important role in piloting initiatives and innovation, providing global knowledge and developing lessons learned.[58] UN Water reports that between 2002 and 2011, Government water-related investment accounted for an estimated 3% of total government expenditure.[59]

In addition to multilateral climate finance (involving ADB, WB and UNDP), several bilateral donors are providing assistance in climate and environment related projects: AusAid; GIZ; USAID; JICA; AFD; and the European Union. Several International non-governmental organizations and local CSOs have been working for many years to strengthen the community resilience to disasters and climate hazards, with some focusing particularly on children, including Save the Children and Plan International.

2.3 Main CEE players

Government

The key government institutions for climate change, environment and energy are:

The Climate Change Commission. Responsible for guiding all climate change policies, including mainstreaming climate change into development plans at all levels, and coordinating private sector and civil society engagement. It is also responsible for guidance and technical review of all Local Climate Change Action Plans.

The Cabinet Cluster on Climate Change. Chaired by the Department of Environment and Natural Resources (DENR) and its members are the secretaries of key ministries and agencies. Evaluates progress, climate change action and including civil society. Promotes mainstreaming climate change by local governments, and formulation of alternative and inclusive urban development plans.[60]

Department of Education. Integrates climate change principles and concepts into the primary and secondary education curricula and educational materials.

Department of Interior and Local Government. Facilitates a climate change training programme for LGUs, focusing on women and children, especially in rural areas.

Department of Environment and Natural Resources. Oversees the establishment and maintenance of a climate change information management system and network, in collaboration with other national government agencies, institutions and LGUs.

Department of Foreign Affairs. Reviews international agreements related to climate change and makes the recommendations for ratification and compliance by the Government.

Philippine Information Agency. Disseminates information on climate change, local vulnerabilities and risk, relevant laws and protocols and adaptation and mitigation measures.

Department of Finance. Together with government financial institutions, the Department of Finance provides preferential financial packages for climate change-related projects.

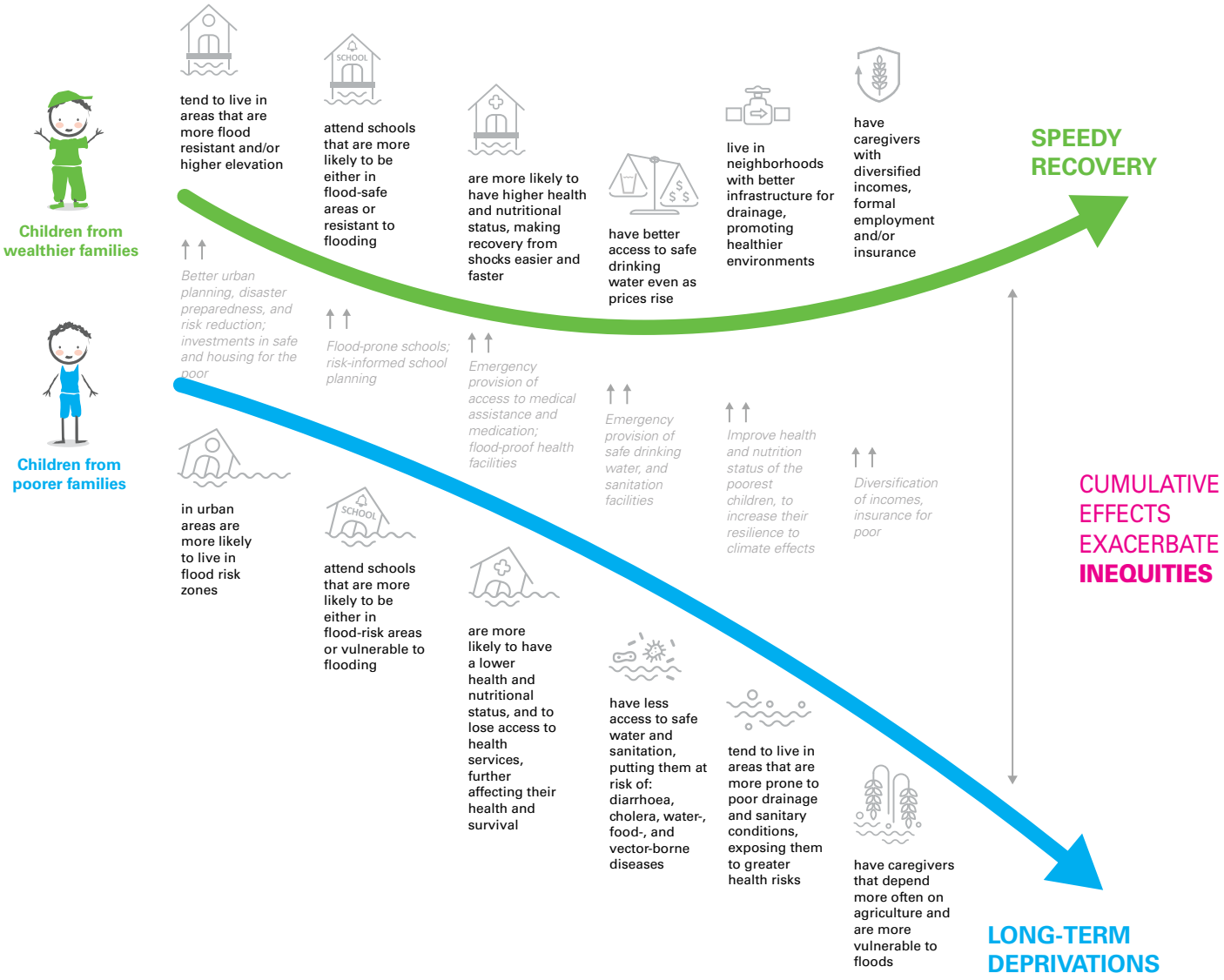
The National Youth Commission is heavily involved in climate change. Its flagship initiative is the awareness-raising National Day for Youth in Climate Action every November 25.

Development partners

Numerous bilateral governments, UN agencies, Multilateral Development Banks and international non-governmental organizations are working on climate, energy and environment issues. The World Bank, World Food Programme (WFP), UNIDO, UNDP, Asian Development Bank and the Department of Foreign Affairs and Trade (Australia) (DFAT) are some of the key players in the sector. ILO has been involved in green jobs.

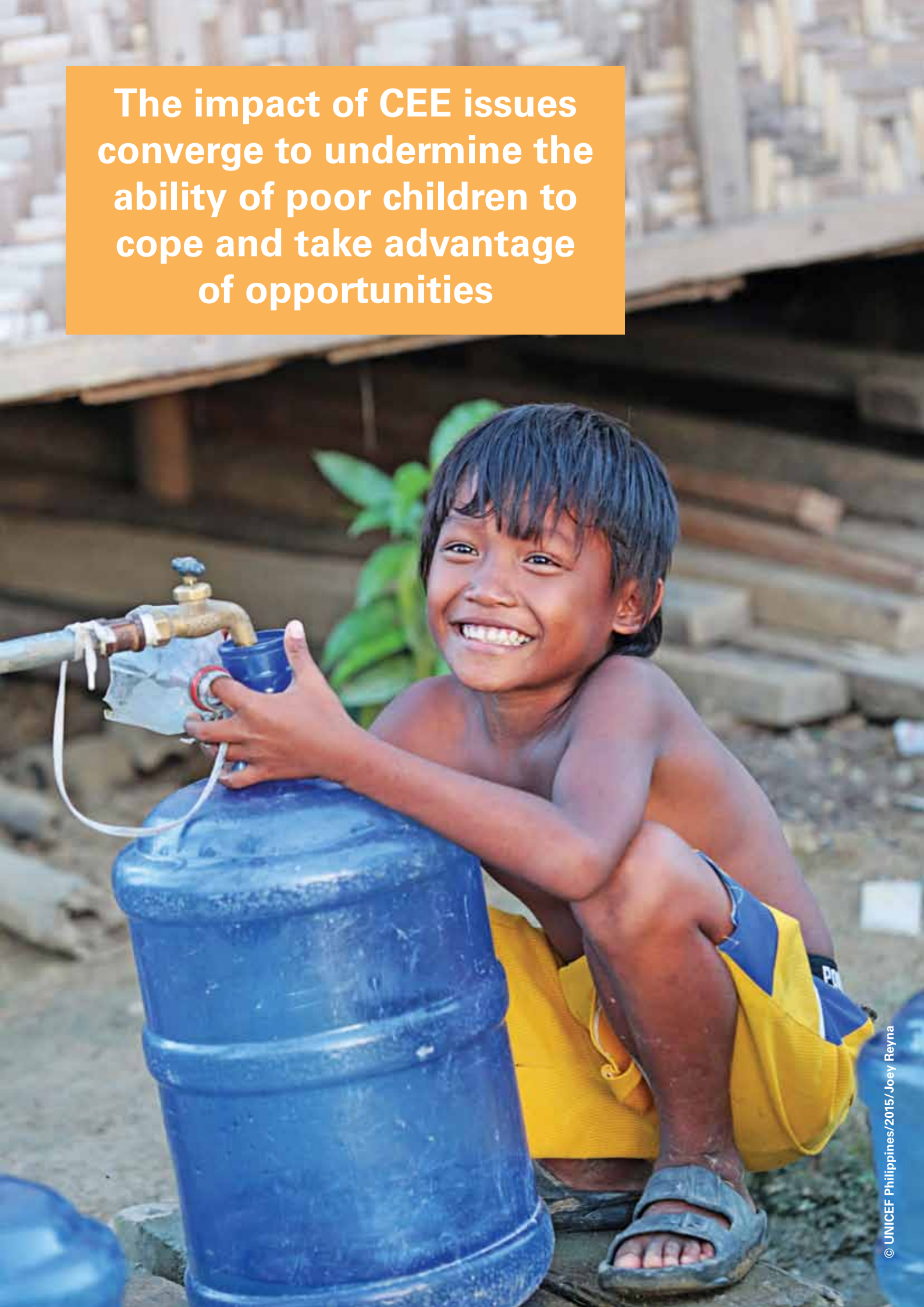
3 The impact of CEE issues on children

The impact of climate change, energy and environment-related issues converge to undermine the ability of poor children to cope and to take advantage of opportunities. Climate change exacerbates inequality and mostly affects the poorest, who depend on resources from marginal areas that are the most exposed to environmental problems. For the poorest children disadvantages and environmental issues often intersect, hitting them especially hard and increasing inequity, for example:



Source: Unless we act now. The impact of climate change on children, UNICEF, 2015.

The impact of CEE issues converge to undermine the ability of poor children to cope and take advantage of opportunities



3.1 Children living in areas exposed to climatic and environmental impacts

The Philippines has an under-18 population of nearly 40 million (Annex 2),[61] and 11 million (12%) are under 5. Large numbers live in urban areas, and in low-lying coastal areas, which expose them to sea level rise, salinization and salt water intrusion and associated problems. Their communities also face declining productivity in the fishing sector. Children on small islands also suffer from much less developed infrastructure and services. Many children in the Visayas, Basilan and Sulu, and on Mindanao island are exposed to multiple environmental stressors, in addition to the conflict situation.

Urban poor children are particularly exposed to disasters and climate change impacts. Informal settlers face multiple climate-related hazards, with typhoons and storm surges hitting communities situated along river lines, and seasonal rains, storm surges and erosion hitting coastal communities.[62]

In 2014, 38% of the urban population lived in slums,[63] which are often in areas especially at risk of natural disasters, and lack the infrastructure that could help people to cope.

3.2 Water, nutrition and health

WHO has identified infectious and vector-borne diseases, ambient and indoor air pollution, sea-level rise, heat-related deaths and under-nutrition as the priority health issues for the Philippines in a changing climate.[64]

Climate change also disproportionately heightens the risk of diseases affecting children, including malaria, dengue fever, Zika and Japanese encephalitis. Climate change can expand the breeding grounds of mosquitoes and thus the prevalence of vector-borne diseases. Warming temperatures also boost their rates of reproduction and bite rates, prolong their breeding season, and shorten the maturation period for the microbes to disperse.[65] Malaria is endemic in over 57 provinces in the Philippines, affecting predominantly poorer communities in remote locations. There have been several dengue fever outbreaks in recent years, with Manila a particular area of concern. Dengue numbers are highest in urban and semi-urban areas,[66] and recently, the disease has started to spread to semi-urban areas of Mindanao.[67]

Lack of access to energy is a major barrier for remote communities' ability to access quality health services and safe water. Thirty per cent of the population of Mindanao has no access to electricity.[68] This includes health facilities in electrified communities, most of which are in remote and poor areas. Indigenous communities – especially in remote areas – are often without electricity, even for health-related services.

The increasing chances of more extreme droughts and frequent heat waves also pose a significant health risk, especially to new-borns and infants who are unable to regulate their body temperature, and are more sensitive to dehydration and contaminated water.

Droughts, intense rainfall and floods related to climate change increase crop losses and reduce food availability throughout rural communities, leading to further malnutrition and worsening rates of stunting, wasting and micronutrient deficiency. Subsistence livelihoods in rain-fed agriculture are especially threatened by climate change and environmental degradation.[69] In addition, floods and intense rainfall contaminate and damage water sources and increase the prevalence of diarrhoea (one of the top three causes of death of under 5-year-olds in the Philippines).

Extreme weather events and droughts, coupled with the disruption of regular health and nutrition services and poor water and sanitation conditions, increase the risk of all forms of malnutrition. The deterioration of nutritional and health outcomes for children – which may have lasting effects if not immediately corrected – may be exacerbated by: disruption to maternal and child feeding patterns when food is scarce; inappropriate use of infant formula; unsafe drinking water; and outbreaks of disease due to poor living conditions. Modelling shows than an estimated 70,000 additional children will be malnourished by 2050 due to climate change impacts – an increase of 4%.[70]

Environmental degradation increases disease and food insecurity by reducing the capacity of watersheds to capture, store and release water. Poor waste water management enables increased mosquito breeding

around houses,[71] and solid waste can clog drainage systems and contribute to flash floods.[72]

Lower income, urban communities are particularly affected by air pollution, which can undermine children's cognitive and physical development, with life-long consequences. Air pollution is directly related to 50% of child deaths from pneumonia, and strongly associated with respiratory diseases including bronchitis and asthma, as well as early foetal loss, pre-term delivery and low birthweight.[73]

3.3 Access to basic services and infrastructure

Children's access to basic services and infrastructure is likely to be undermined by climate change, increasing their need for adaptation and coping responses.

- Flash floods and landslides are already common throughout the rainy season and are likely to increase in severity and frequency during monsoons.
- Increasingly intense storms are projected.
- The Philippines has a high rate of poor urban in informal settlements with no access to infrastructure and basic services. Many are in low-lying coastal areas and particularly exposed to storms, storm surges and saltwater intrusion, and heat stress disproportionately affects the urban poor due to the 'urban heat island' effect.
- A lack of electricity for services, including health centres, blocks provision of essential services[74] including vaccinations, maternal health and retention of health sector staff.[75]

3.4 Education

Children's ability to learn is a strongly influenced by CEE. In order to learn they need to be healthy and adequately nourished and they must be able to attend school, and they must have access to electricity for lighting at school and at home, decent water and sanitation, and school must operate during or shortly after extreme climate events.

Climate change and environmental degradation are severe threats to children's education in the Philippines.[76] The increasing intensity and frequency of extreme weather events lead to suspended classes which can disrupt school attendance. Ministry of Education measures to support continuity in education including alternative learning methods such as take-home materials.

Concrete evidence on the exact impact of CEE issues on education is still lacking in the Philippines. Questions about the number of classes suspended over a long period, the effectiveness of the continuity measures and the impact of CEE on dropout rates must be investigated further.

Some 1,308 schools with 220,883 students have no access electricity in the Philippines.[77] The majority (355) are in the Autonomous Region of Muslim Mindanao, followed by Region IV-B (164), Bicol Region (146), and Cordillera Administrative Region (132). Many of these areas have a high presence of indigenous communities. DepEd is turning to solar energy as a strategy for electrifying off-grid schools in remote areas (focusing on secondary schools).

While DepEd has developed modules to integrate disaster risk reduction management in the curriculum, their content could be broadened regarding CEE. DepEd intends to strengthen these modules to better adapt them to students' knowledge and skills.

3.5 Poverty and access to food

Climate change exacerbates inequality because the poor are less able to bounce back from the shocks of climate hazards, and fall deeper into poverty.

The Philippine economy is highly sensitive to climate change. The agricultural sector contributes roughly 10% of GDP and employs 30% of the workforce.[78] A 1°C temperature increase is likely to result in a 10% to 15% drop in agricultural production,[79] making families practicing subsistence agriculture and informal agricultural workers particularly vulnerable. For rain-fed subsistence farmers, the quantity and timing of rainfall directly relate to the quantity of food available through the year. Reduced food production drives up food prices, affecting the poor in urban areas.

World Bank and Intergovernmental Panel on Climate Change studies project the catch potential of the

Philippines seas to drop by 50% due to climate change, environmental degradation and overexploitation,[80] with knock-on effects on the health of children and mothers.

3.6 Child protection

The Philippines has ratified all key international conventions concerning child labour, and the Government has established laws and regulations related to the issue. However, the 2011 National Survey on Children indicated that 3.2 million children are engaged in child labour, of which approximately 3 million work in its hazardous forms. Most child labour occurs in the informal sector, with approximately 60% in agriculture.[81] Climate change is expected to increase the pressure on livelihoods in rural areas, which is likely to increase poverty and in turn child labour, with a direct impact in children's school attendance.

Children also work in informal mining. Gold mining is of particular concern since working conditions are highly hazardous and the mercury is still commonly used, which can cause death or irreversible damage to children's brains and central nervous system, and other severe disabilities. In areas with extractive industries, an estimated 14% of children work in mining.[82]

Widespread deforestation forces children to walk further to collect firewood and water – tasks for which rural children, especially girls, are typically responsible. This can expose children to violence. There is also a risk that climate change impacts can further drive conflict between people and groups, for example over land rights and access to natural resources, especially water.

3.7 Social inclusion

Children in rural and remote areas and islands may be further excluded from opportunities and services and more prone to discrimination when climate change and environmental degradation increase poverty and reduce food security. Consequently, they are at higher risk of exclusion from school, health care and future livelihood opportunities.

People with a disability are particularly vulnerable to climate change and disasters, and are less able to cope with the accompanying stress and danger. According to the 2010 National Census, of the 1.44 million people experiencing some form of disability, 272,000 are aged 14 or younger,[83] and this figure is significantly lower than WHO World Report on Disability estimates.[84] Children with disabilities must be taken into account when developing climate change action plans.

Sea level rise, deteriorating livelihoods from agriculture and fishing and increasing competition over scarce natural resources are drivers of migration, internal displacement and conflict, which can uproot whole families and in severe cases undermine children's right to their homeland. Parents who migrate for work elsewhere earn income that benefits their children, but parental absence has also been linked to behavioural problems among children.[85]

It is noteworthy that the resolution on mainstreaming gender equality and promoting empowerment of women in climate change policies and strategies adopted at the 55th Commission on the Status of Women (CSW), was initiated by the Philippines.[86]

3.8 Indigenous peoples

The Philippines' indigenous population is estimated at between 10% and 20% of the total population.[87] The largest indigenous populations, the Igorot and the Lumad, live in the northern mountains of Luzon (Cordillera), and the southern island of Mindanao, respectively. Other important indigenous groups are the Mangyan, Aetas, and Badjao.

Indigenous children are among the most vulnerable to climate change effects in the Philippines due to their high dependence on natural resources, their location in remote areas and their already marginalised situation. Many indigenous people live on small islands, or in remote mountains, with limited access to social services, infrastructure or energy. Climate change effects on biodiversity will put additional pressure on the livelihoods and traditions of indigenous people, who also suffer the effects of legal and illegal mining in their communities.

Climate change and environmental degradation are two of the major concerns for indigenous children in the Philippines, as reflected in a recent study commissioned by UNICEF Philippines and the Tebtebba Foundation, which emphasises the importance that indigenous children place on a healthy environment.[88]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4 Child and youth voices and participation regarding CEE

Children and youths are an immense cadre of mobilisers to foster climate change awareness among the general public, and the National Youth Commission is also involved in climate change. Its flagship initiative is the awareness-raising National Day for Youth in Climate Action every November 25. Official statements from youth leaders on climate change were also released prior to UNFCCC Conference of Parties 21 and 22 in 2015 and 2016.

For COP 21, more than 3.6 million youth pledges were raised through the #NowPH campaign launched by the YesPinoy Foundation.[89] Filipino youth – given their large nufmber and their demonstrated engagement and interest in climate change issues – represent an immense cadre of mobilizers to foster climate change and awareness among the general public. Youth organizations were also consulted prior to the Philippine attendance at COP21. DENR facilitated consultations and workshops where youths expressed their concerns regarding climate change.

5 Child-Inclusive CEE policies, strategies and programming

5.1 Do existing CEE policies and strategies address children's needs?

While climate action plans are required to be child-sensitive, this has not been put into practice. Child-specific vulnerabilities and priorities relating to CEE issues are insufficiently addressed in CEE policies and child-focused policies, probably because of a lack of analytical tools and guidance on how to identify and address the problem.[90]

The Climate Change Act (Republic Act 9729) recognises that children are vulnerable to climate change threats and advocates for pro-child perspectives in all climate change and renewable energy efforts, plans and programmes. It also requests the NCCAP to identify how climate change impacts upon men, women and children. However, in the NCCAP, children only appear under the Human Security Agenda, as one of the groups vulnerable to climate and disaster risks, together with women, the elderly and persons with disability.

Similarly, the NFSCC only references children in its guidance principles – no specific provisions are made towards the protection of children from the effects of climate change, or towards the participation of youth and children in climate change discussions and processes. Neither the Initial and Second National Communications to the UNFCCC nor the INDC refer to children.

5.2 Do child-relevant sector policies and strategies incorporate CEE issues?

Although there is some recognition and mention of children's vulnerability to climate change in Philippine sector policies, this has not been translated into programmes and investment to address the issue.

The Health and Climate Change adaptation strategy recognizes the particular vulnerabilities of children to air pollution, and of infants to heat stress. In addition, LGUs are requested to identify and respond to the particular vulnerabilities of children.[91] However, further tools and guidance on the issue are lacking.[92]

The energy sector includes climate change adaptation elements, but there is no child-specific consideration, such as access for children to energy services in remote locations, even for critical services such as health care, water and sanitation and education.

5.3 Do children benefit from investment and programmes on CEE?

Children and youth are mentioned sporadically in some of the initiatives listed in Annex 3. However, there is little evidence of direct benefits to them, mainly because child-focused activities are not represented in the criteria for funding climate and environment financing mechanisms. Consequently, child-sensitive indictors are not included within the logical frameworks of the projects they fund.

Child-specific vulnerabilities are insufficiently addressed in CEE policies

National CEE-related funds such as the People's Survival Fund and the Department of Energy's Host Community Funds do not include reference to or indicators targeting children in their guidelines.

However, children under 18 – approximately 40% of the population[93] – are likely to benefit from investment in rural infrastructure and service improvements, environmental protection and energy projects along with their communities. So it is important that these benefits are properly quantified so that the effectiveness of CEE investment in improving child wellbeing and attaining child rights can be calculated.

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6 CEE funding landscape in the Philippines

6.1 Multilateral donors

The Philippines has been receiving multilateral funding from the Global Environment Facility for more than two decades, with a portfolio of 100 projects amounting to 640.46 million USD in grant funding. The Green Climate Fund has not yet funded any project in the Philippines. The Asian Development Bank has been running CEE projects (both grant and loan) to a cumulative value of over 1.2 billion USD.[94]

6.2 Bilateral donors

Many bilateral donors are heavily involved in CEE initiatives in the Philippines, and have been funding programmes. USAID, DFAT and the German Government are the main donors in this regard.

6.3 Private donors

The private sector is substantially involved in DRR and emergency response in the Philippines, with companies grouped under umbrella organizations covering different issues. The most important are the Philippine Disaster Recovery Foundation, the Corporate Network for Disaster Response and Philippine Business for Social Progress. Companies also have individual Corporate Social Responsibility programmes. Those particularly relevant to CEE are Aboitiz, Solar Philippines, SM Malls, ABS-CBN and Philips.

7 Recommendations

The increasing impacts of climate change and environmental degradation are undermining the progress being made with children's rights in the Philippines. Unless appropriate action is taken, this is likely to affect the sustainability of the results achieved so far by the Government and the development community. The following overall recommendations have emerged from the analysis.

1) **Ensure the mainstreaming of CEE into the policies, strategies and programmes of Government departments.** CEE issues should be incorporated across all relevant sectors to ensure that the climate-related risks to vulnerable populations are addressed. This involves, among other things, strengthening the knowledge base about the impacts of climate change, and enhancing environmental sustainability.

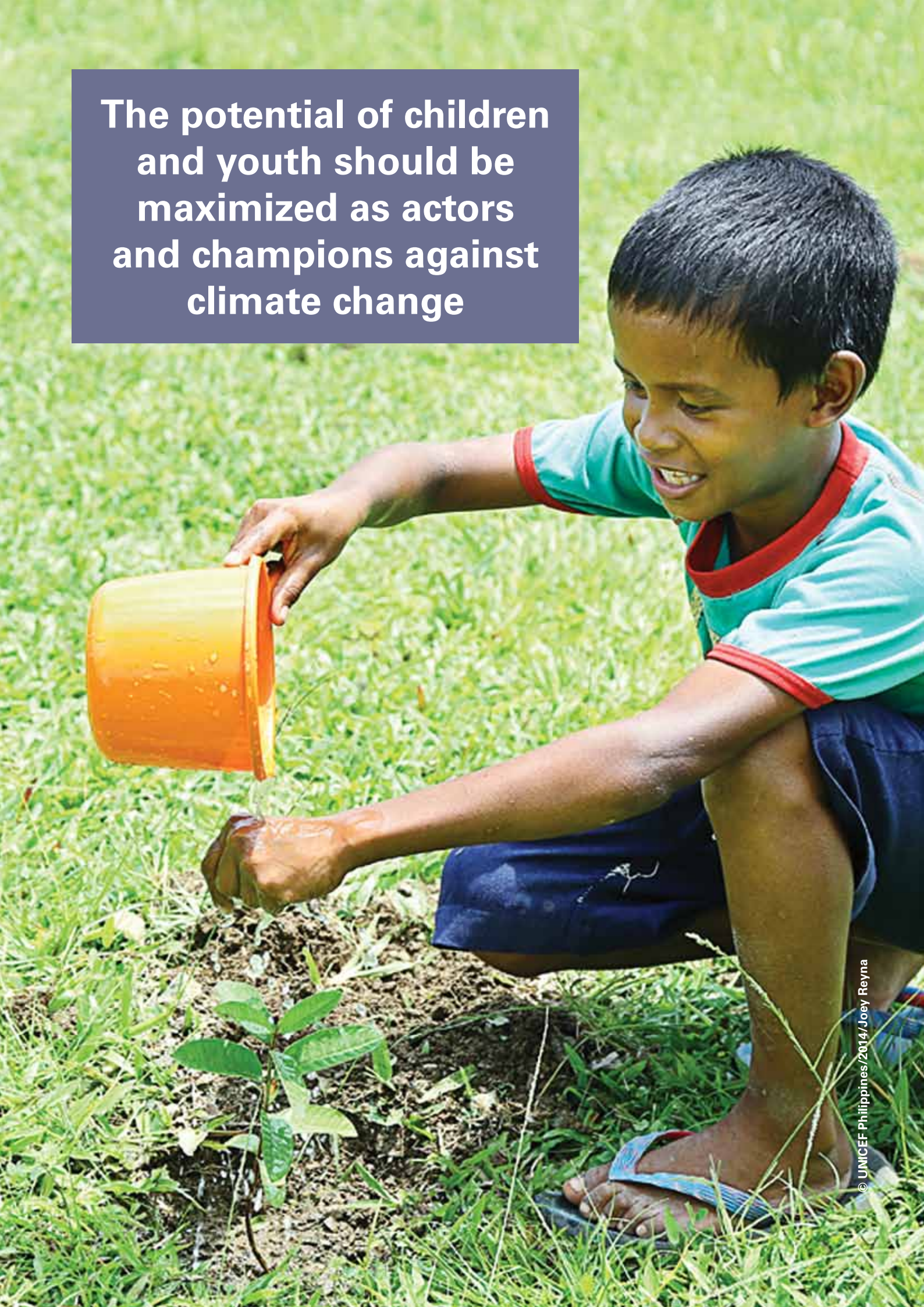
2) **Advocate for policies that respond to the priorities and specific vulnerabilities of children and youth regarding CEE.** The status of children as CEE stakeholders needs to be recognised by government and non-government stakeholders at national and sub-national level by, for example: encouraging youth engagement in the review of the National Action Plan on Climate Change; supporting LGUs in developing child-sensitive local climate change adaptation plans; and incorporating child-specific priorities in other local sector plans. The lack of data and analysis highlighting children's vulnerability is a barrier to child-focused action on climate change in the Philippines that should be addressed urgently.

3) **Work towards more integration and collaboration in CEE programming between Government departments.** There is room for many profitable synergies between the multiple Government departments involved in preventing and addressing the impacts of climate change. A more coordinated and strategic approach to the issue could lead to significantly better results and bigger impact of public policies. Issues like the right to health, a clean environment, reliable energy and education are interlinked and can only be ensured through an integrated approach.

4) **Invest in training and capacity building in CEE issues.** CEE work should be more than an add-on, and be fully integrated into staff development, work planning and HR management. Investment in CEE issues through the national school curriculum will also be vital in long-term attitudinal and behavioural change.

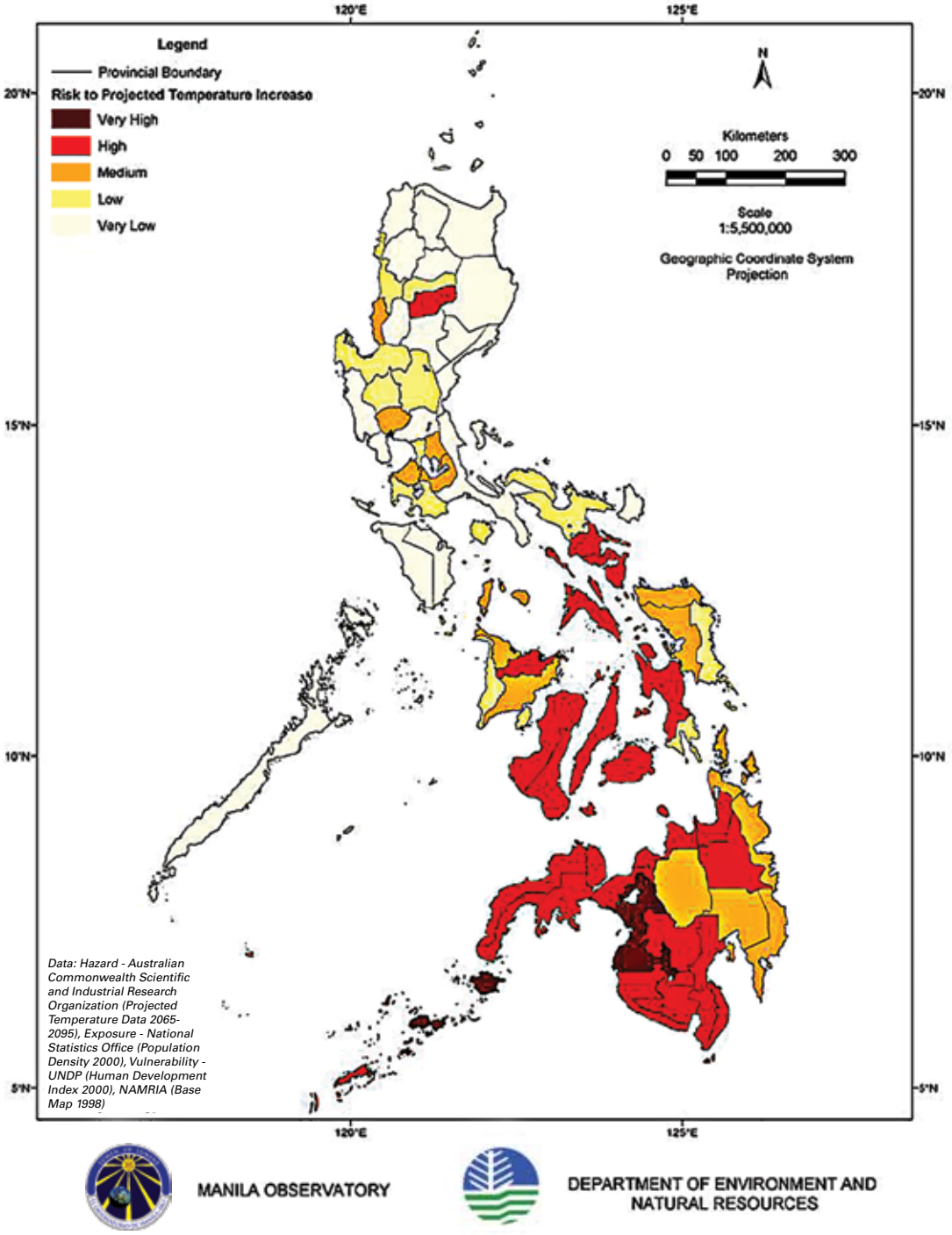
5) **The potential of youth should be maximized as actors and champions against climate change.** With 40% of its population aged under 18, the Philippines should tap this often overlooked population sector as a cadre of mobilizers against the adverse effects of climate change, which will be affecting them as a new generation. The use of new technologies and social media should be prioritized as avenues for engaging and reaching out to children and youth populations.

The potential of children and youth should be maximized as actors and champions against climate change



Mapping Philippine Vulnerability to Environment Disasters

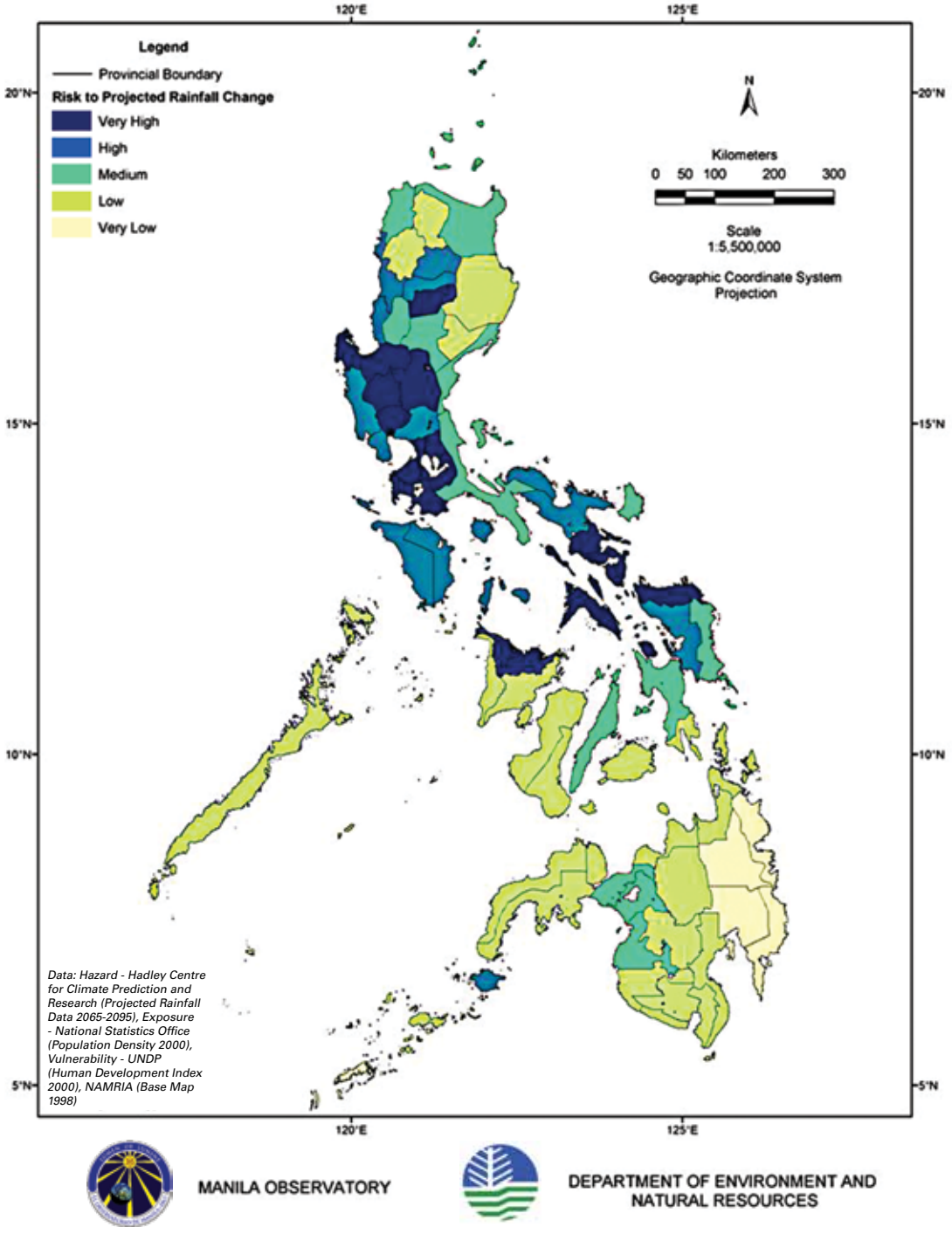
Risk due to Projected Temperature Increase



Source: Manila Observatory: accessed February 2017 http://vm.observatory.ph/cw_maps.html

Date of production: 2008

Risk due to Projected Rainfall Change

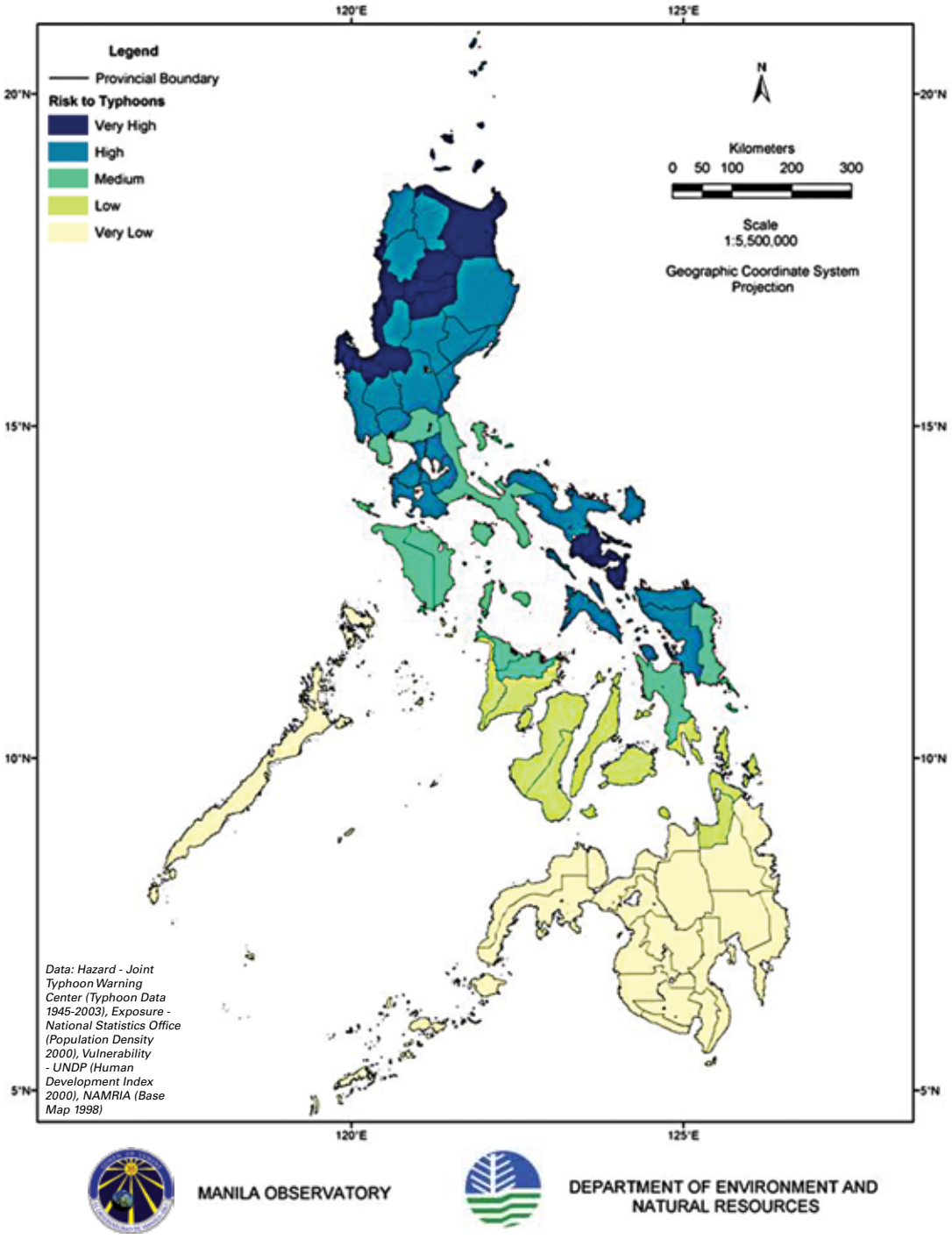


Source: Manila Observatory: accessed February 2017 http://vm.observatory.ph/cw_maps.html

Date of production: 2008

Mapping Philippine Vulnerability to Environment Disasters

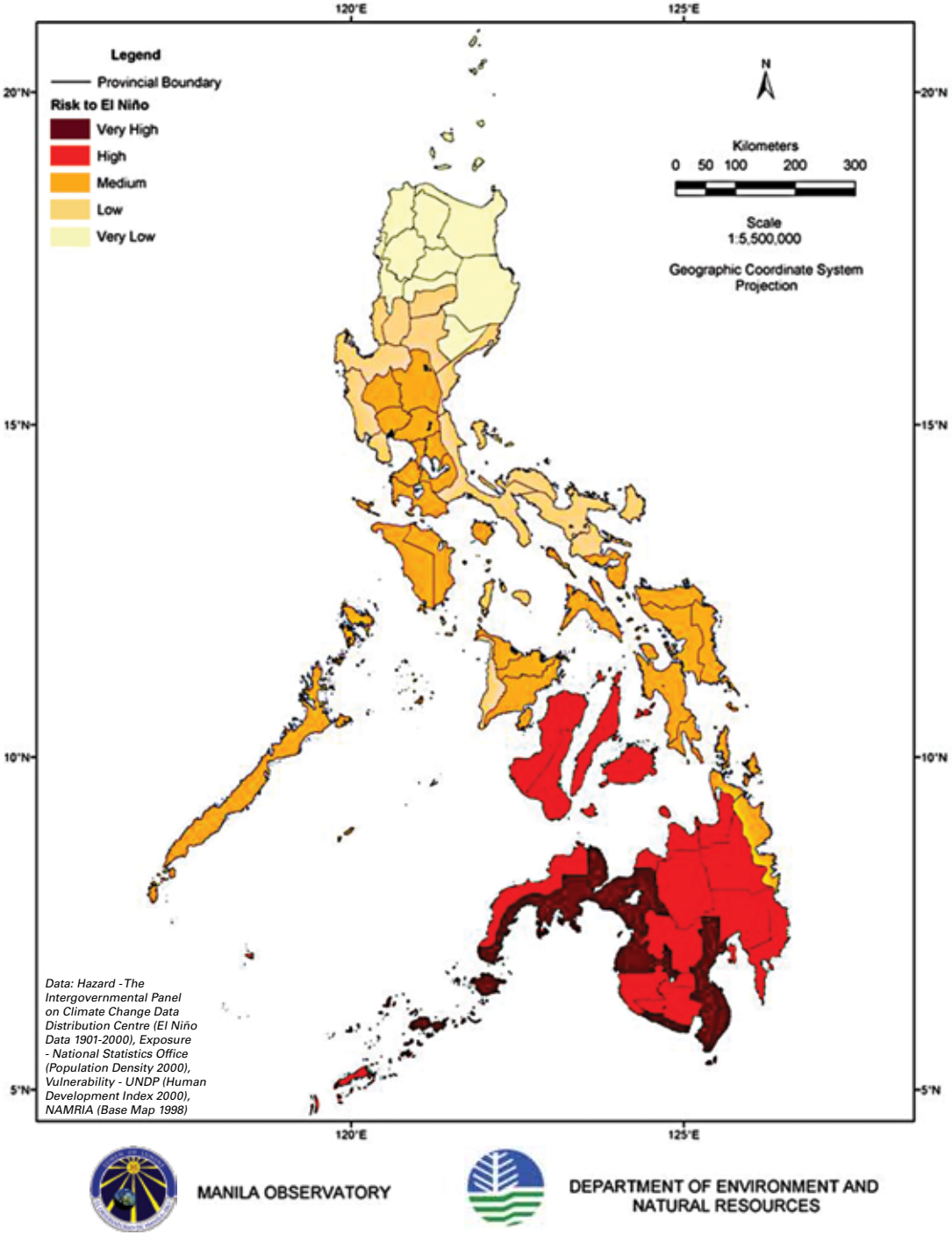
Risk due to Typhoons



Source: Manila Observatory: accessed February 2017 http://vm.observatory.ph/cw_maps.html

Date of production: 2008

Risk due to El Niño

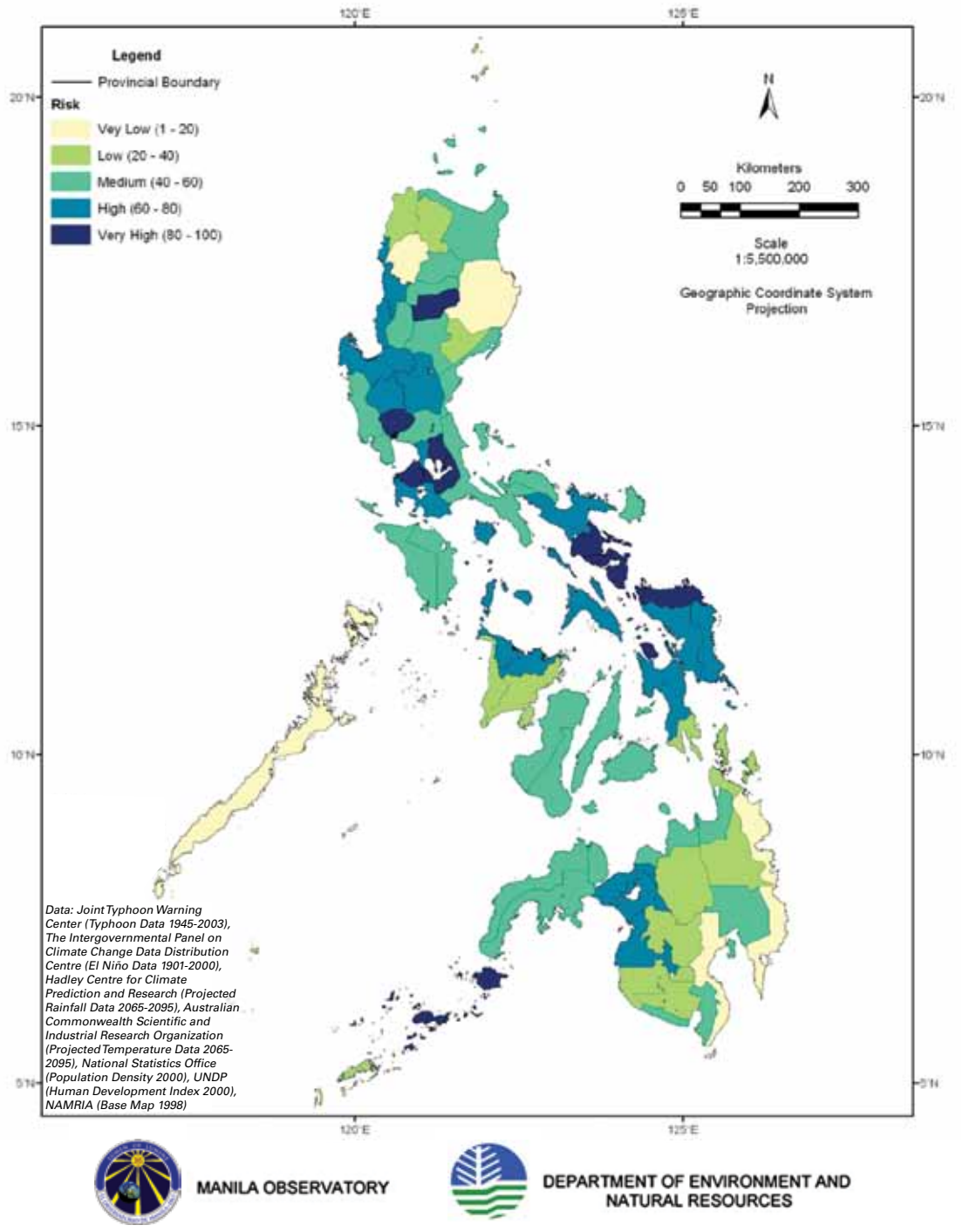


Source: Manila Observatory: accessed February 2017 http://vm.observatory.ph/cw_maps.html

Date of production: 2008

Mapping Philippine Vulnerability to Environment Disasters

Combined Risk due to Climate and Weather-Related Disasters



Source: Manila Observatory: accessed February 2017 http://vm.observatory.ph/cw_maps.html

Date of production: 2008

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PROJECT TITLE	FUNDING SOURCE	IMPLEMENTING AGENCY	EXECUTING AGENCIES
Implementation of Polychlorinated Biphenyl Management Programs for Electric Cooperatives and Safe e-wastes management	Global Environment Facility Trust Fund	UNIDO	Department of Environment and Natural Resources (DENR), National Electrification Administration, Department of Trade and Industry, Technical Education and Skills Development Authority, ESDA
Strengthening National Systems to Improve Governance and Management of Indigenous Peoples and Local Communities Conserved Areas and Territories	Global Environment Facility Trust Fund	UNDP	DENR, National Commission on Indigenous Peoples, KASAPI, Philippine Association for Intercultural Development
Implementation of Sustainable Land Management (SLM) Practices to Address Land Degradation and Mitigate Effects of Drought	Global Environment Facility Trust Fund	UNDP	Department of Agriculture
Promotion of Low Carbon Urban Transport Systems in the Philippines	Global Environment Facility Trust Fund	UNDP	Department of Transport and Communications
Dynamic conservation and sustainable use of agro-biodiversity in traditional agro-ecosystems of the Philippines	Global Environment Facility Trust Fund	FAO	Department of Agriculture
Development for Renewable Energy Applications Mainstreaming and Market Sustainability (DREAMS)	Global Environment Facility Trust Fund	UNDP	Department of Energy

	DURATION	AMOUNT	STATUS	CHILDREN/YOUTH REFLECTED?
	5 years	6,200,000 USD	Approved December 2016	Yes. During the project implementation, women and children who are often involved in WEEE (waste electrical and electronics equipment) business will receive IEC and training on the health impact of improper WEEE handling. Children will be discouraged from participating in WEEE processing.
	4 years	1,751,484 USD	Approved July 2015	No
	3 years	870,900 USD	Approved June 2015	Yes. Children will have the opportunity to attend school and learn vocational and technical skills to prepare them for work other than farming. This will be realized through the generation of additional local revenues and allotment of budget for the education of the children of farmers practicing SLM. The education support will be a form of incentive for more farmers to practice SLM.
	4 years	2,639,726 USD	Approved August 2016	No
	3 years	2,182,631 USD	Approved October 2015	No
	4 years	5,200,000 USD	Approved February 2016	No

PROJECT TITLE	FUNDING SOURCE	IMPLEMENTING AGENCY	EXECUTING AGENCIES
National Biodiversity Planning to Support the implementation of the CBD 2011-2020 Strategic Plan in Republic of the Philippines	Global Environment Facility Trust Fund	UNDP	DENR, Birdlife International
: Scaling Up Risk Transfer Mechanisms for Climate Vulnerable Farming Communities in South Philippines	Global Environment Facility Special Climate Change Fund	UNDP	ILO, Department of Trade and Industry, Department of Labour and Employment, Philippine Crop Insurance Corporation
Enabling activities to review and update the national implementation plan for the Stockholm Convention on Persistent Organic Pollutants (POPs)	Global Environment Facility Trust Fund	UNIDO	DENR
Strengthening the Marine Protected Area System to Conserve Marine Key Biodiversity Areas	Global Environment Facility Trust Fund	UNDP	DENR, Department of Agriculture, National Fisheries Research and Development Institute, Haribon Foundation WWF Philippines
5th Operational Phase of the GEF Small Grants Programme in the Philippines	Global Environment Facility Trust Fund	UNDP	United Nations Office for Project Services
Access to Sustainable Energy in the Philippines	DCI	EU	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

	DURATION	AMOUNT	STATUS	CHILDREN/YOUTH REFLECTED?
	30 months	220,000 USD	Approved May 2012	No
	3 years	1,050,000 USD	Approved January 2014	No
	1 year	8,000,000 USD	Approved May 2014	Yes. The assessment will especially take into account gender issues, e.g. women or children dealing and handling new POPs chemicals
	5 years	4,583,333 USD	Approved February 2014	No
	4 years	6,974,500	Approved December 2012	No
	3 years 6 months	EUR	Ongoing	N/A

Global Environment Facility	Operational Focal Point: Undersecretary Analiza Rebuelta-Teh Department of Environment and Natural Resources Visayas Avenue Diliman Quezon City, Metro Manila, 1100 Philippines Tel: + 632 926 8074, + 632 926 8065 Email: analiza@denr.gov.ph; tehanna08@gmail.com; tehanna17@yahoo.com Political Focal Point: Lourdes O. Yparraguirre Permanent Mission of the Republic of the Philippines to the United Nations 556 5th Avenue 5th Floor New York, 10036, USA Tel: (212) 764 1300 Email: lourdes@nypm.org ; mangela.ponce@nypm.org ; elaine.lorenzo@nypm.org
Green Climate Fund National Designated Authority	Secretary Roy A. Cimatu Department of Environment and Natural Resources Visayas Avenue, Diliman, Quezon City, Philippines Tel.: +632 926 3011
UNFCCC National focal points	Commissioner / Secretary Frances Veronica Victorio Climate Change Commission NInoy Aquino Parks and Wildlife Center, Quezon City, Philippines Tel: +632 566 2277 Email: victoriov.ccc@gmail.com Assistant Secretary Bayani Mercado Department of Foreign Affairs 2230 Roxas Boulevard, Pasay City, Philippines Tel.: +632 834 4000 E-mail: unio.div2@dfa.gov.ph
Climate Change Commission	Commissioner / Secretary Frances Veronica Victorio Climate Change Commission NInoy Aquino Parks and Wildlife Center, Quezon City, Philippines Tel: +632 566 2277 Email: victoriov.ccc@gmail.com
Department of Education	Director Ronilda Co Disaster Risk Reduction and Management Service DepEd Complex, Meralco Avenue, Pasig City Tel: +632 635 3764 drrmo@deped.gov.ph ; ronilda.co@deped.gov.ph
Department of Energy	Director Jesus T. Tamang Energy and Policy Planning Bureau DOE Building, Energy Center, Rizal Drive, Bonifacio Global City, Taguig Tel: +632 479 2900 ext.223 E-mail: jesus.tamang@doe.gov.ph
Department of Environment and Natural Resources	Albert A. Magalang Chief, Climate Change Division, Environmental Management Bureau DENR Compound, Visayas Avenue, Quezon City Tel: +632 920-22-51 E-mail: albertmg@emb.gov.ph
Department of Finance	Assistant Secretary Maria Edita Z. Tan International Finance Group DoF Building, BSP Complex Roxas Boulevard, Manila Tel: +632 526 9990 E-mail: mtan@dof.gov.ph

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EXISTING POLICIES	RESPONSIBLE DEPARTMENT
Constitution of the Philippines (1987)	Office of the President
Republic Act 7942 "Mining Act of 1995"	Department of Environment and Natural Resources
Republic Act 8371 "Indigenous Peoples' Rights Act of 1997"	National Commission on Indigenous Peoples
Republic Act 8749 "Clean Air Act of 1999"	Department of Environment and Natural Resources
Republic Act 8435 "Agricultural and Fisheries Modernization Act of 1997"	Department of Agriculture
Republic Act 9003 "Ecological Solid Waste Management of 2003"	Department of Environment and Natural Resources

	POTENTIAL LINKS WITH CLIMATE CHANGE POLICY	REMARKS
	No mention at all of Climate, Environment, Sustainability or Energy	Article XV, Section 3, Point 2, recognizes "the right of children to assistance, including proper care and nutrition, and special protection from all forms of neglect, abuse, cruelty, exploitation, and other conditions prejudicial to their development" Article XII, Section V, commands the State to "protect the rights of indigenous cultural communities to their ancestral lands to ensure their economic, social, and cultural well-being"
	Section 70 states that "People's organizations and non-governmental organizations shall be allowed and encouraged to participate in ensuring that contractors/permittees shall observe all the requirements of environmental protection"	Section 16 states that "No ancestral land shall be opened for mining-operations without prior consent of the indigenous cultural community concerned." No reference to children
	Section 7, point b recognises the right of IPs to develop their lands and natural resources, and to uphold their responsibility for future generations, as well as "the right to negotiate the terms and conditions for the exploration of natural resources in the areas for the purpose of ensuring ecological, environmental protection"	Section 27 recognises the vital role of IP children and youths in nation-building and "shall promote and protect their physical, moral, spiritual, intellectual and social well-being. Towards this end, the State shall support all government programs intended for the development and rearing of the children and youth of ICCs/IPs for civic efficiency and establish such mechanisms as may be necessary for the protection of the rights of the indigenous children and youth."
	Section 20 explicitly mentions concerns about the effects of climate change as the reason to "promote the use of state-of-the-art, environmentally-sound and safe non-burn technologies for the handling, treatment, thermal destruction, utilization, and disposal of sorted, unrecycled, uncomposted municipal, bio-medical and hazardous wastes." Furthermore, "Local government units are hereby mandated to promote, encourage and implement in their respective jurisdiction a comprehensive ecological waste management that includes waste segregation, recycling and composting"	No mention to children or youth at all
	Section 16 states that DOA, together with the Philippine Atmospheric, Geophysical and Astronomical Services Administration, "shall devise a method of regularly monitoring and considering the effect of global climate changes, weather disturbances, and annual productivity cycles for the purpose of forecasting and formulating agriculture and fisheries production programs."	Rural youth is considered as a group of special concern.
	Section 48, point 3, bans the open burning of solid waste.	No reference to children or youth

EXISTING POLICIES	RESPONSIBLE DEPARTMENT
Republic Act 9275 "Clean Water Act of 2004"	Department of Environment and Natural Resources
Republic Act 9513 "Renewable Energy Act of 2008"	Department of Energy
Republic Act 9729 "Climate Change Act of 2009"	Climate Change Commission
Republic Act 10121 "Disaster Risk Reduction and Management Act of 2010"	National Disaster Risk Reduction and Management Council (NDRRMC)
Republic Act 10174 "People's Survival Fund of 2011"	Climate Change Commission
Republic Act 10771 "Green Jobs Act of 2016"	Department of Labor and Employment (DOLE)
Administrative Orders 2012-0005 and 2012-0018 "National Policy on Climate Change Adaptation for the Health Sector"	Department of Health

	POTENTIAL LINKS WITH CLIMATE CHANGE POLICY	REMARKS
	Section 16 states that "any person who causes pollution in or pollutes water bodies in excess of the applicable and prevailing standards shall be responsible to contain, remove and clean-up any pollution incident at his own expense to the extent that the same water bodies have been rendered unfit for utilization and beneficial use	No reference to children or youth
	Section 15 declares that fiscal incentives to renewable energy must be implemented in the context of energy security and climate change imperatives.	No reference to children or youth
	N/A	Section 2 recognises the specific vulnerabilities of poor, women and children to the potential dangerous consequences of climate change and encourages the State "to incorporate a gender-sensitive, pro-children and pro-poor perspective in all climate change and renewable energy efforts, plans and programs". Section 13 of the Climate Change Act mandates the Commission to formulate the NCCAP, which should include the identification of differential impacts of climate change on men, women and children.
	Section 6, letter J tasks NDRRMC to "develop assessment tools on the existing and potential hazards and risks brought about by climate change to vulnerable areas and ecosystems in coordination with the Climate Change Commission"	Section 2, letter J declares a Stete Policy to "Ensure that disaster risk reduction and climate change measures are gender responsive, sensitive to indigenous know ledge systems, and respectful of human rights"
	N/A	No mention to children or youth
	Section 6, letter O tasks the CCC to "develop and administer appropriate standards for the assessment and certification of green goods and services, and green technologies and practices" Section 6, letter J The Department of Science and Technology shall, together with the Technical Education and Skills Development Authority. assist DOLE in analyzing skills, training and re-training needs in relation to the use of green technology that has the potential to create new green occupations and greener jobs, especially in industries or sectors undergoing structural changes due to climate change and greening of the economy.	No mention to children or youth
	Inclusion of children and youth as vulnerable sectors	No mention to children or youth

GLOSSARY

Adaptation

Initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects. There are various types of adaptation, for example, anticipatory and reactive, private and public, and autonomous and planned. Examples of adaptation include raising river or coastal dikes, and the substitution of more temperature-shock resistant plants for sensitive ones.

Biodiversity

The total diversity of all organisms and ecosystems at various spatial scales (from genes to entire biomes).

Climate

Climate in a narrow sense is usually defined as the average weather, or more rigorously, as the statistical description in terms of the mean and variability of relevant quantities over a period ranging from months to thousands or millions of years. The classical period for averaging these variables is 30 years, as defined by the World Meteorological Organization. The relevant quantities are most often surface variables such as temperature, precipitation and wind. Climate in a wider sense is the state, including a statistical description, of the climate system. In various parts of this report different averaging periods, such as a period of 20 years, are also used.

Climate change

Climate change refers to a change in the state of the climate that can be identified (for example, by using statistical tests) by changes in the mean and/or variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forces, or to persistent anthropogenic changes in the composition of the atmosphere or in land use. Note that UNFCCC, in its Article 1, defines climate change as: "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods." UNFCCC thus makes a distinction between climate change attributable to human activities altering the atmospheric composition, and climate variability attributable to natural causes.

Climate projection

A projection of the response of the climate system to emission or concentration scenarios of greenhouse gases and aerosols, or radiative forcing scenarios, often based upon climate model simulations. Climate projections are distinguished from climate predictions in order to emphasize that climate projections depend upon the emission/concentration/radiative forcing scenario used, which are based on assumptions concerning, for example, future socioeconomic and technological developments that may or may not be realized, and are therefore subject to substantial uncertainty.

Climate scenario

A plausible and often simplified representation of the future climate, based on an internally consistent set of climatological relationships that has been constructed for explicit use in investigating the potential consequences of anthropogenic climate change, often serving as an input for impact models. Climate projections often serve as the raw material for constructing climate scenarios, but climate scenarios usually require additional information such as the observed current climate. A climate change scenario is the difference between a climate scenario and the current climate.

Drought

In general terms, drought is a 'prolonged absence or marked deficiency of precipitation', a 'deficiency that results in water shortage for some activity or for some group', or a 'period of abnormally dry weather sufficiently prolonged for the lack of precipitation to cause a serious hydrological imbalance' (Heim, 2002). Drought has been defined in a number of ways: 'Agricultural drought' relates to moisture deficits in the topmost 1 metre or so of soil (the root zone) that affect crops; 'meteorological drought' is mainly a prolonged deficit of precipitation; and 'hydrologic drought' is related to below-normal streamflow, lake and groundwater levels. A 'megadrought' is a long drawn-out and pervasive drought, lasting much longer than normal, usually a decade or more.

Ecosystem

A system of living organisms interacting with each other and their physical environment. The boundaries of what could be called an ecosystem are somewhat arbitrary, depending on the focus of interest or study. Thus, the extent of an ecosystem may range from very small spatial scales to, ultimately, the entire Earth.

El Niño-Southern Oscillation

The term 'El Niño' was initially used to describe a warm-water current that periodically flows along the coast of Ecuador and Perú, disrupting the local fishery. It has since become identified with a basin-wide warming of the tropical Pacific, east of the dateline. This oceanic event is associated with a fluctuation of a global-scale tropical and subtropical surface pressure pattern called the Southern Oscillation. This coupled atmosphere-ocean phenomenon, with preferred time scales of two to about seven years, is collectively known as the 'El Niño-Southern Oscillation', or ENSO. It is often measured by the surface pressure anomaly difference between Darwin and Tahiti and the sea surface temperatures in the central and eastern equatorial Pacific. During an ENSO event, the prevailing trade winds weaken, reducing upwelling and altering ocean currents such that the sea surface temperatures warm, further weakening the trade winds. This event has a great impact on the wind, sea surface temperature and precipitation patterns in the tropical Pacific. It has climatic effects throughout the Pacific region and in many other parts of the world, through global teleconnections. The cold phase of ENSO is called La Niña.

Extreme weather event

An event that is rare at a particular place and time of year. Definitions of 'rare' vary, but an extreme weather event would normally be as rare as or rarer than the 10th or 90th percentile of the observed probability density function. By definition, the characteristics of what is called extreme weather may vary from place to place in an absolute sense. Single extreme events cannot be simply and directly attributed to anthropogenic climate change, as there is always a finite chance the event in question might have occurred naturally. When a pattern of extreme weather persists for some time, such as a season, it may be classed as an extreme climate event, especially if it yields an average or total that is itself extreme (for example, drought or heavy rainfall over a season).

Food security

A situation that exists when people have secure access to sufficient amounts of safe and nutritious food for normal growth, development and an active and healthy life. Food insecurity may be caused by the unavailability of food, insufficient purchasing power, inappropriate distribution, or inadequate use of food at the household level.

Indegenous peoples

No internationally accepted definition of IPs exists. Common characteristics often applied under international law, and by United Nations agencies to distinguish IPs include: residence within or attachment to geographically distinct traditional habitats, ancestral territories and their natural resources; maintenance of cultural and social identities, and social, economic, cultural and political institutions separate from mainstream or dominant societies and cultures; descent from population groups present in a given area, most frequently before modern states or territories were created and current borders defined; and self-identification as being part of a distinct indigenous cultural group, and the desire to preserve that cultural identity.

Infectious disease

Any disease caused by microbial agents that can be transmitted from one person to another or from animals to people. This may occur by direct physical contact, by handling of an object that has picked up infective organisms, through a disease carrier, via contaminated water, or by spread of infected droplets coughed or exhaled into the air.

GLOSSARY

Millennium Development Goals

A set of time-bound and measurable goals for combating poverty, hunger, disease, illiteracy, discrimination against women and environmental degradation, agreed at the UN Millennium Summit in 2000.

Mitigation

Technological change and substitution that reduce resource inputs and emissions per unit of output. Although several social, economic and technological policies would produce an emission reduction, with respect to Climate Change, mitigation means implementing policies to reduce greenhouse gas emissions and enhance sinks.

Resilience

The ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organization, and the capacity to adapt to stress and change.

Saltwater intrusion

Displacement of fresh surface water or groundwater by the advance of saltwater due to its greater density. This usually occurs in coastal and estuarine areas due to reducing land-based influence (for example, either from reduced runoff and associated groundwater recharge, or from excessive water withdrawals from aquifers) or increasing marine influence (for example, relative sea-level rise).

Sea level change/sea level rise

Sea level can change, both globally and locally, due to: (i) changes in the shape of the ocean basins; (ii) changes in the total mass of water; and (iii) changes in water density. Factors leading to sea level rise under global warming include both increases in the total mass of water from the melting of land-based snow and ice, and changes in water density from an increase in ocean water temperatures and salinity changes. Relative sea level rise occurs where there is a local increase in the level of the ocean relative to the land, which might be due to ocean rise and/or land level subsidence.

Storm surge

The temporary increase, at a particular locality, in the height of the sea due to extreme meteorological conditions (low atmospheric pressure and/or strong winds). The storm surge is defined as being the excess above the level expected from the tidal variation alone at that time and place.

United Nations Framework Convention on Climate Change (UNFCCC)

The Convention was adopted on 9 May 1992 in New York and signed at the 1992 Earth Summit in Rio de Janeiro by more than 150 countries and the European Community. Its ultimate objective is the "stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". It contains commitments for all Parties. Under the Convention, Parties included in Annex I (all OECD member countries in the year 1990 and countries with economies in transition) aim to return greenhouse gas emissions not controlled by the Montreal Protocol to 1990 levels by the year 2000. The Convention entered into force in March 1994.

Urbanization

The conversion of land from a natural state or managed natural state (such as agriculture) to cities; a process driven by net rural-to-urban migration through which an increasing percentage of the population in any nation or region come to live in settlements that are defined as urban centres.

Vector

An organism, such as an insect, that transmits a pathogen from one host to another.

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United Nations Children's Fund
Philippines Country Office
31st Floor, Yuchengco Tower, RCBC Plaza
6819 Ayala Avenue, 1200, Makati City, Philippines

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