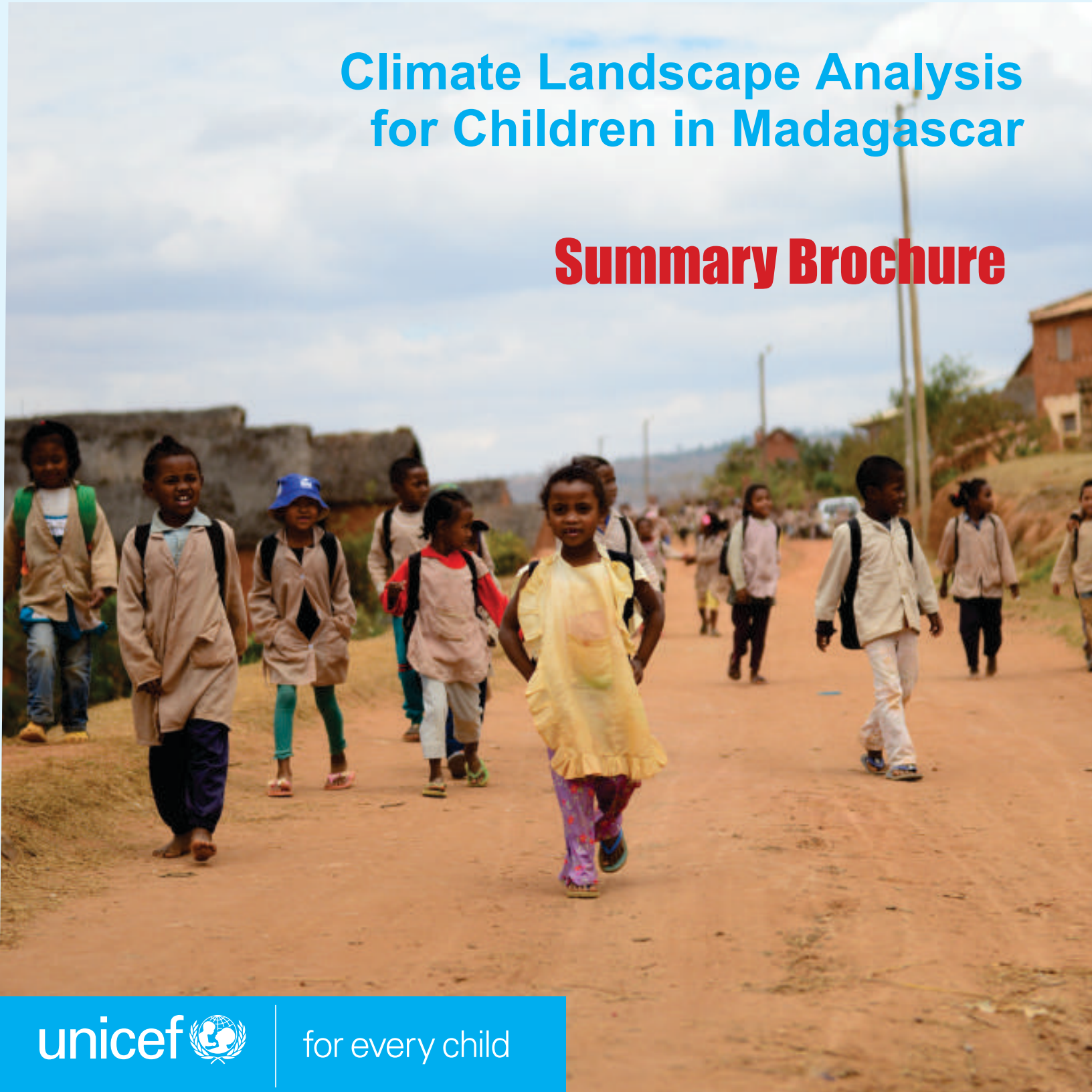
Climate Landscape Analysis for Children in Madagascar

Summary Brochure



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“It's very hot now. The water in the rice fields is drying up and we don't have any more fish. Our chicken farming also suffers from the heat. Avian diseases spread more easily. My parents have less income.”

Paquerette, 15, lives in eastern Madagascar and mobilises other young people to protect the environment. She has first-hand experience of the effects of climate change.

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Front cover: A boy plays on a beach in Madagascar.

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INTRODUCTION

Climate change is affecting daily life in ways previously unimagined. Across the world, extreme weather events such as floods, droughts, heat waves and storms are getting more severe and frequent. This is having a devastating impact on living conditions in many parts of the world, particularly where the world's poorest and most vulnerable children live.

With its extensive coastline and location in the Indian Ocean, Madagascar is especially vulnerable to the impact of climate change and natural disasters. It is also one of the world's poorest nations, with just over three quarters of the population living in extreme poverty. The country continues to rank at the bottom of many international child and maternal indices, with children and families facing multiple deprivations in well-being and living

This brochure is a summary of the key findings and recommendations of the Climate Landscape Analysis for Children in Madagascar. The baseline report was carried out to better understand how climate, energy and environment (CEE) issues affect children in Madagascar, and how UNICEF Madagascar can deepen its CEE work in the country.

Children playing in floodwater outside their home.

KEY FINDINGS

1. Madagascar: Highly vulnerable to climate change

The key climate change stressors in Madagascar are rising temperatures; extended drought periods and increased variability of rainfall; intensification of cyclones and floods; and rising sea levels and sea surface temperatures.

These events are becoming increasingly frequent and intense. In the past two decades, Madagascar has been struck by 35 cyclones, eight floods and five severe droughts, affecting a total of more than 11 million people, including more than 5 million children. The natural disasters have caused an estimated US$1 billion in damages and disrupted food security, drinking water supply and irrigation, school infrastructure, public health systems, environmental management and overall quality of life.

One quarter (more than 6 million) of Madagascar's population lives in zones at risk of natural disasters. The country has been identified as the second most exposed country in Africa to current multi-disaster risks.

The impact of climate change threats could pull already vulnerable people back into deeper poverty, with especially negative impacts on children's survival, development and protection.

Cyclone Enawo

Cyclone Enawo (category 4 cyclone) hit Madagascar's north-eastern Sava region on 7 March 2017 and moved through the centre of the country as a tropical depression, exiting in the south-east on the morning of 10 March 2017. It was the country's most powerful storm in 13 years. Strong winds and floods damaged crops, infrastructure, schools and houses, temporarily displacing 247,000 people, injuring 253 and killing 81.

Source: United Nations Office for the Coordination of Humanitarian Affairs, Madagascar Cyclone Enawo: Flash Appeal, March 2017.

2. Urban nature of disaster risk

Though still a predominantly rural country, poverty and disaster risk are becoming an increasingly urban problem in Madagascar. The capital city, Antananarivo, is especially at risk.

Antananarivo has almost 3 million inhabitants and accounts for about half of the country's urban dwellers. Nearly three quarters of the urban population in Madagascar lives in informal settlements.

Every year, 100,000 to 150,000 people move to Antananarivo with the vast majority settling in high-risk areas. Antananarivo is highly vulnerable to floods, and the large concentration of people and assets in the flood plain of the city is a major concern.

The lack of early warning systems, inadequate urban planning and poorly maintained drainage infrastructure means that the effects of flooding are significant in urban centres.

City of Antananarivo

Flooding in the capital city

In January 2015, catastrophic flooding occurred in Antananarivo, affecting an estimated 93,000 people and displacing 40,000. It had an estimated economic impact equivalent to 1.1 per cent of the country's GDP.

The flood was triggered by the tropical cyclone Chezda, which hit Madagascar on 16 January and caused the Antananarivo pumping station (used to drain rain and wastewater from the city) to break down, resulting in levels of surrounding rivers to rise.

Antanarivo is prone to flooding, with two thirds of the city classified as a flood plain. This leads to a chronic annual cycle of flood emergencies, displacement, injury and loss of life.

In addition, illegal housing constructed in so-called prohibited areas such as drainage canals, dykes and flood zones, where floodwater and wastewater are known to drain from, is a challenge. Such factors make Antananarivo's flood contingency plan obsolete and the authorities are yet to deal with the unauthorized housing development in the risk areas.

Source: International Federation of Red Cross and Red Crescent Societies, Emergency Plan of Action final report Madagascar: Cyclone Chezda - Final Report, January 2016.

3. Social, economic and environmental development affected by other climate risks

Madagascar also faces other significant environmental issues. Deforestation, air pollution, water contamination, soil erosion, loss of biodiversity, shoreline degradation and mining activities are all threatening the survival of Madagascar's diverse and unique flora and fauna; harming human health, especially that of children; and hampering socio-economic development.

The country is also struggling to provide sufficient energy to its population: only 15 per cent of the country is covered by electricity. An insufficient supply of electricity has an adverse impact on public health and the environment, leading people to use harmful sources of energy such as toxic petroleum lamps or firewood sourced from the destructive cutting of forests.

Dangers of air pollution

One of Madagascar's urgent environment threats is air pollution. According to the World Bank Climate Change Knowledge Portal, more than 18,000 premature deaths in Madagascar were attributable to air pollution in 2013, up from just over 12,700 in 1990.

Indoor air pollution is especially harmful for children and pregnant women. It affects birth weight and brain development in babies, as well as increasing susceptibility to life-threatening illnesses such as pneumonia and chronic obstructive pulmonary disease. More than 40 per cent of respiratory infections are thought to be linked to indoor air pollution in Madagascar.

Indoor air pollution is mainly caused by burning solid fuel, for example, charcoal, wood or crop waste. The vast majority of the population in Madagascar (95 per cent) primarily uses solid fuel for cooking.

Urban air pollution is also a major problem, but there is a very little evidence on the issue. Available data show that air pollution in Antananarivo, has already reached critical levels. Air pollution in the capital city is caused by road transport, forest and agricultural fires on the outskirts of the city, industrial exhaust and smoke from domestic sources.

4. Children bear the brunt of climate change

The dangers of climate change and environmental degradation in Madagascar are more pronounced for children than for adults. Children are more vulnerable because of their developing physiology.

Already, 35 per cent of all deaths of children under 5 in Madagascar are due to diseases related to CEE such as acute respiratory infections, diarrhoea and malaria. House air pollution also plays a signification role in acute respiratory infections in children.

The physical dangers of extreme weather events – cyclones, flooding, collapse of homes, school buildings, health facilities and more – pose unique threats to young bodies and minds.

Children face greater dangers from undernutrition. One of the most significant effects of climate change is the impact on the food system as it changes rainfall patterns, reduces agricultural yields and affects food security. Close to half of all children under 5 are stunted in Madagascar, and nearly a fifth suffer from severe acute malnutrition. Rates of this life-threatening condition peak during natural disasters and disease epidemics.

Boys carrying water back to their home.

5. Climate change is about equity

Climate change is also an issue of equity and social justice, affecting the most vulnerable and poorest communities first and with the most far-reaching consequences. Children and families who are already disadvantaged by poverty – those with the fewest resources for coping – are likely to face some of the most immediate and long-term dangers of climate change.

Just over three quarters of the population in Madagascar lives in extreme poverty. The country is also youthful, with more than 20 per cent of its 24 million inhabitants children under the age of 5 and 47 per cent children under the age of 15.

As climate change destabilizes social and livelihood systems that support children's survival, development and protection, parents, caregivers and communities will become increasingly strained in their attempts to provide children with adequate care and protection. Already, more than a fifth of children aged 5–14 years in Madagascar are engaged in child labour, with the majority working in the climate-sensitive sector of agriculture.

Because they are still growing, children are at greatest risk of injury, disability, death and harm caused by the impacts of climate change.

6. Children are not well represented in CEE-related national documents

Children do not feature prominently in the national legal, policy and programme documents for CEE management in Madagascar. They are mainly included in reference to environmental education, as a means to strengthen child participation and improve children's skills in protecting themselves during disasters. Most documents outline the negative impact of climate change on the most vulnerable population groups, but there is a lack of specific action on how to improve the situation of children.

On the other hand, child-relevant sector policies and strategies such as the Education Plan 2016–2030, the National Policy on Social Protection, the National Policy for Youth, the National Health Plan 2015–2019, and the National Nutrition Plan III 2017–2021 do mention the impact of climate change on children and how to mitigate the consequences.

NATIONAL DOCUMENT	CHILD FOCUS?	OBSERVATION
National Adaptation Programme of Action for Climate Change	✗	None of NAPA's projects make direct references to children; children are briefly mentioned in some sections of the document.
National Policy on Combatting Climate Change (NPLCC), 2011	✗	Does not mention the conditions of children or the specific impact of climate change on them.
National Strategy for Clean Development Mechanism (CDM)	✗	Does not address children or make reference to them.
Madagascar Intended Nationally Determined Contribution	✗	Does not mention the conditions of children or the specific impact of climate change on them.
National Policy on Health and Environment, 2011	✗	Actions in the policy are not specifically focused on children but make allowance for their needs.
National Policy on Environmental Education for Sustainable Development	✓	The policy addresses all population groups, including children.
Environmental Programme for Sustainable Development (PEED)	✗	Does not include the situation of children. Information on children appears in several sections of the programme document.

NATIONAL DOCUMENT	CHILD FOCUS?	OBSERVATION
National Energy Policy (NPE) 2015–2030	✗	Does not address the conditions of children although several indirect references to children appear.
National Strategy on Water, Sanitation and Hygiene 2013–2018	✗	Does not mention children
National Development Plan (PND) 2015–2019	✓	The plan includes a situation analysis of children, and recognizes the need to protect them from climate change.
National Strategy for Risk and Disaster Management 2016–2030	✗	Does not directly address children, but makes several indirect mentions.
Steering Plan for Climate Change Environment Research 2015–2019	✓	The plans mentions that training on climate change should be strengthened at primary and second education levels.
National biodiversity and action plans 2015–2025	✗	The role of children in biodiversity is not directly evaluated but several mentions of children and families are made.

RECOMMENDATIONS

Climate change, environmental degradation and energy access are equity issues, with children and young people disproportionally at risk and affected by them. Addressing these issues is therefore vital for building a more sustainable future for children.

- Reduce indoor air pollution to protect children's health and growth, beginning from a woman's pregnancy.
- Increase access to health services in areas affected by extreme climate events and high levels of pollution and environment degradation.
- Monitor changes in rainfall patterns and increasing temperatures that contribute to increases in malaria and other vector-borne diseases, and adapt programmes accordingly.
- Develop sound water use policies and identify alternative water provision methods to avoid depletion of aquatic resources, which can undermine child nutrition.
- Mitigate impact of climate unpredictability and increasing flood and drought risks on agricultural production to decrease the likelihood of food insecurity and malnutrition.

The essential rights of children in Madagascar are directly threatened by climate change, and must be protected at all costs.

Recommendations for EDUCATION

- Contribute to training on malnutrition since longer and more frequent drought episodes will aggravate malnutrition, which will further undermine children's ability to learn.
- Develop social mechanisms to avoid an increase in demand for child labour due to agriculture shortfalls caused by climate change that will keep more children out of school.
- Increase access to WASH in schools since more frequent water shortages and poor sanitation can lead to high rates of illness, leading to absenteeism and lower learning outcomes.
- Develop electrification of schools and teachers' houses to increase learning potential and retention of staff.
- Prepare response plans for floods, cyclones and high winds that damage roads and school infrastructure, reducing access to school, disrupting classes and affecting learning outcomes.

A school boy shows off his pencils and chalk. It is vital to keep children in school and learning.

Recommendations for CHILD PROTECTION

- Increase community awareness, protection and social policy mechanisms to avoid child participation in the labour market and child exploitation that may result from decreases in household income because of climate change.
- Address temporary food shortages to avoid potential for increased risk of sexual exploitation and violence due to food shortages, competition for scarce resources such as water, and climate forced seasonal migration.
- Climate change can accelerate migration of poor children to urban areas, and this migration should be addressed.

Cross-sectoral recommendations

In addition, four strategies related to CEE can be adopted by any sector/programme.

1. Strengthen the engagement of Madagascar's development stakeholders in CEE, especially with regard to children.
2. Strengthen the mainstreaming of CEE in current humanitarian and development
3. Expand and develop on sectoral initiatives that specifically address CEE issues.
4. Focus on emerging issues such as pollution, urbanization, waste management, energy management and new diseases.

Children play football in a field outside their community.

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