CHILD CLIMATE RISK AND RESILIENCE IN AFRICA

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CHILDREN'S EXPOSURE AND VULNERABILITY TO CLIMATE HAZARDS

UTLANTIC SOUTH ATLANTIC OCEAN





~99% of children on earth face at least one major climate event (UNICEF, 2021)

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Child climate risk depends on a combination of exposure and vulnerability (IPCC, 2014; UNICEF, 2021) The overlap between exposure and vulnerability varies greatly across countries and hazards (IPCC, 2014; Save the Children, 2022)

TARGETING RESOURCES TO CHILDREN EXPERIENCING GREATEST CLIMATE RISK



Child climate risk assessments provide critical information for resource allocation (UNICEF Eswatini, 2023)

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The global CCRI integrates both pillars of exposure and vulnerability (UNICEF, 2021)

SCOR

COUNTRY NAME Central African Republic

Guinea-Bissau Somalia Niger South Sudan Democratic Republ the Congo



A subnational indicator of child climate vulnerability needs to be identified

MEASURING CHILDREN'S VULNERABILITY TO CLIMATE HAZARDS

- Poverty affects both exposure to hazards and the capacity to cope with them
- Rights-based deprivation may be an appropriate measure of child climate vulnerability

Shelter	Higher risk of exposure to the elements, such as rain, heat etc.
Sanitation	Higher risk of impaired hydration, cooling, and hygiene
Water	Higher risk of contaminated local water sources
Information	Higher risk of no advance warning for environmental risk
Food	Higher risk of stunting and wasting, anaemia , and infectious disease
Education	Higher risk of lacking the skills to cope with environmental and health risks
Health	Higher risk of vaccine-preventable disease

(Gordon et al., 2003)

OVERLAYING CHILD SURVEY AND DISASTER NOTIFICATION DATA



Climate data:

1. EM-DAT Database of notified disasters between 2000-2018

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Representative child data:

MICS & DHS across
21 countries
between 2017-2022

Method:

 Overlay subnational climate and child data using administrative boundaries

CHILD SURVEY AND DISASTER NOTIFICATION DATA IN WESTERN & CENTRAL AFRICA



Child deprivation

Prevalence: 69%



Flooding



(0.5 - 0.7) (0.9 - 1)

Drought

• Key data gaps between EM-DAT notification data and satellite based event observations, especially in regions like the Congo Basin.

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Child poverty prevalence

(0 - 0.3)

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OVERLAYING CHILD SURVEY AND SATELITTE DATA TO ASSESS CLIMATE VULNERABILITY



Climate data:

- 1. Global Flood Database, RES: 250m
- 2. CHIRPS Database, RES: 5km

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Representative child data:

- 1. Nigeria, 2018
- 2. Malawi, 2015/16
- 3. Uganda, 2016

/

Method:

 Overlay subnational climate and child data using geocodes

SATELLITE DATA ON MAJOR FLOODS AND DRY **MONTHS IN NIGERIA**

Land

No

Within 5km of flood extent

Two consecutive months with standardised precipitation index <1*



Aug 2018 flood

Permanent water Flood extent Within 5km of flood



Drought No Yes

Exposed to drought

No 0 Yes •

Aug 2017-July 2018

*Based on daily CHIRPS data since 1981

EXPOSURE TO CLIMATE HAZARDS AND PREVALENCE OF CHILD POVERTY

- **Climate hazards:** Exposure was high across countries
 - In Nigeria, 6% corresponds to >5.5 million children exposed to flooding
 - In Uganda, 62% corresponds to >16 million children exposed to drought
- **Child poverty:** Prevalence was also high, with no sanitation consistently the most prevalent dimension

	Malawi	Nigeria	Uganda
Climate			
Flooding	4%	6%	5%
Drought	22%	22%	62%
Both	<1%	<1%	5%
Child poverty			
Any	40%	67%	79%
Shelter	14%	16%	20%
Sanitation	17%	48%	67%
Water	14%	33%	22%
Nutrition	11%	17%	10%
Education	9%	26%	20%
Health	2%	16%	7%
Observations	61,507	90,041	47,234



CHILD VULNERABILITY BY EXPOSURE TO FLOOD AND DROUGHT

- **Flooding:** Poverty consistently higher than national average. But only significantly higher than non-affected areas in Nigeria and Uganda.
- **Drought:** Poverty consistently lower than national average, with evidence for significantly lower levels in Uganda.

	Flooding		
	Yes	Νο	p-value
Child poverty			
Malawi	44%	40%	0.219
Nigeria	81%	66%	<0.001
Uganda	89%	78 %	<0.001

	Drought		
	Yes	Νο	p-value
Child poverty			
Malawi	37%	41%	0.219
Nigeria	66%	67%	0.462
Uganda	73%	87 %	<0.001

SUBNATIONAL CHILD VULNERABILITY BY **EXPOSURE TO FLOOD AND DROUGHT IN NIGERIA**



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MAIN FINDINGS & DISCUSSION

- Children are not uniformly at risk of climate hazards, and their vulnerability is often influenced by social and economic factors
- A rights-based, age- and gender-appropriate indicator of child deprivation could serve as an effective measure for assessing child climate vulnerability
- We observe high levels of child deprivation, across regions affected by climate hazards, and at higher levels of resolution, using satellite data, we're able to identify areas where rates of vulnerability are especially high
- There are some further considerations:
 - Are the current measures of each dimension of deprivation relevant in the context of climate hazards?
 - How can we more accurately capture the full range of 'vulnerability'?

DISCUSSION



Reference: Miki Khanh Doan et al., 2023



IMPLICATIONS FOR FURTHER RESEARCH AND PROGRAMMING

- The high exposure of children to climate hazards underscores the need for investment in systems designed to enhance climate resilience
- These systems should focus on both building resilience and supporting reactive coping, for example through integration with WFP's ADAM platform
- In Malawi, Nigeria, and Uganda, efforts should strengthen national systems to include responsive measures tailored to highly vulnerable children
- Subsidizing insurance can address the challenge of affordability of traditional insurance products for low-income households
- Malawi's Social Cash Transfer Programme has already incorporated a Disaster Risk Financing Strategy to protect beneficiaries when climate thresholds are crossed

Reference: Carter, 2018; Surminski et al., 2016; World Bank 2023;



INTIAL FINDINGS PUBLISHED IN 2023 REPORT BY GLOBAL COALITION TO END CHILD POVERTY



https://www.endchildhoodpoverty.org/publications-feed/climatechange

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THANK YOU

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