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Protecting the Most Vulnerable People in Vietnam from Climate Shocks:

Exposure to Flooding and Crop Failures has Unequal Impact on Children's Development and Learning

Overview

With its long coastline and susceptibility to storms, typhoons and flooding, Vietnam is one of the world's most vulnerable countries to increasing extreme weather events and rising sea levels associated with climate change. The Government of Vietnam and the World Bank have highlighted protecting the most vulnerable people from the impact of climate change as a priority policy area to enable Vietnam to adapt to climate change and build resilience, alongside action to mitigate climate change by decarbonising growth (World Bank 2022).

With over two decades of research, Young Lives has generated groundbreaking insights into how poverty and inequality affect the lives of young people in low- and middle-income countries, including through following the lives of 3,000 young people in Vietnam.

Our unique longitudinal data show that childhood exposure to climate shocks, such as flooding and related crop failures, has an unequal impact on children's development, affecting their nutrition, growth, cognitive skills, and access to education. This impedes their learning – including foundational learning through developing basic literacy, numeracy and socio-emotional skills – with the poorest children most affected.

This policy brief summarises our findings on these impacts and highlights critical areas of policy requiring further research and urgent action.

Urgent policy areas to action

Enabling quality education for all children in a changing climate requires a broad approach. While investing in teachers, schools and universities to improve the quality of education is pivotal, ensuring that all children get the right start in life, including a sufficient and healthy diet, is crucial for effective learning. Providing an enabling environment for all girls and boys to stay in school, with sufficient resources to study, is also essential for young people to reach their potential.

Policymakers need to better understand:

- **how climate-related shocks, nutrition and foundational learning interconnect** – enabling more holistic programmes of support, including ‘shock-responsive’ social protection programmes to reach disadvantaged households in disaster-prone regions, particularly for vulnerable infants and adolescent girls, aligned with early learning and school feeding programmes.
- **the additional barriers to education in a changing climate** – strengthening age- and gender-disaggregated data and evidence on the impact of climate change, and enabling specific action to help keep vulnerable girls and boys in school in times of stress, including practical measures to relieve the burdens of household work and childcare responsibilities for girls and young women.
- **how and why persistent inequalities continue to underpin the learning crisis in education** – further longitudinal research is critical to understand trends over time and the impacts of specific shocks, including climate-related shocks; targeted investment in early years education, particularly preschool education, and addressing the growing digital divide are also vital to support poor and marginalised households, especially in rural areas.

Young Lives’ longitudinal evidence informing policy debates in Vietnam

Young Lives is an innovative longitudinal study that has been following the lives of 12,000 young people in Ethiopia, India (in the states of Andhra Pradesh and Telangana), Peru and Vietnam since 2001. The study is divided into two age groups: 4,000 young people born in 1994 (the Older Cohort) and 8,000 born in 2001 (the Younger Cohort).

Young Lives is led by the University of Oxford, in partnership in Vietnam with the General Statistics Office (GSO), and the Centre for Analysis and Forecast (CAF) under the administration of the Vietnam Academy of Social Sciences.

Extreme weather events are becoming more frequent, with the poorest households hardest hit

Extreme weather events are expected to rise in frequency and intensity, even if COP26¹ is successful in charting a path for limiting global warming to 1.5°C.

Vietnam has been hit by an increasing number of severe floods and landslides in recent years, with significant economic and social impacts. UNICEF estimates that over 1.5 million children are at risk of the effects of widespread flooding and landslides in central Vietnam (UNICEF 2020).

Over a third (34 per cent) of the children in our sample in Vietnam had reported having experienced at least one extreme weather event (drought or flood) by the age of 15, and this figure will have undoubtedly grown since then. Children living in the very poorest households have been significantly more affected, with 50 per cent of those in the poorest households experiencing at least one extreme weather event by the age of 15, compared to only 17 per cent of those from the better-off households.²

Additionally, households in rural areas were three times more likely to report a flood between 2006–2009 (when our study cohorts were in early childhood and adolescence) than those in urban areas, and agricultural households reported twice as many floods as non-agricultural households (Dornan, Ogando, and Pells 2014).

Our evidence over the last two decades shows that extreme weather events experienced during childhood are having a significantly unequal impact on the poorest and most vulnerable groups.

Climate-related shocks affecting children in their early life have negative impacts on their growing bodies and minds

When extreme weather events destroy crops or lead to higher food prices, vulnerable families struggle to maintain nutritious diets. Our evidence in Vietnam shows that households that experience flooding are more likely to be affected by food insecurity, with children and adolescents significantly affected by poorer diets (Dornan, Ogando, and Pells 2014).

Our evidence also shows that poor diets and associated child malnutrition can have severe long-term consequences, affecting physical growth, cognitive skills, and progress in school. Across all four of our study countries, the children most likely to be undernourished are in the poorest households, in rural areas, and often among minority ethnic groups (Benny, Boyden, and Penny 2018).

1 For more details on the UN Climate Change Conference in 2021 (COP26), see: <https://ukcop26.org>

2 Household wealth is measured using the Young Lives Wealth Index. See Briones (2017) for more details.

The first 1,000 days of life – from conception to age 2 – are critical for children's health, development and life chances. In Vietnam, our results show that early childhood stunting due to malnutrition has a significantly negative impact on important cognitive skills, such as vocabulary and basic mathematics, especially for children whose parents received little or no education (Duc 2009).

These early-stage shocks have significant long-term consequences. In India, Young Lives data matched with historical rainfall data shows that droughts, flooding or cyclones experienced by a mother while she is pregnant can affect the future development of her child's vocabulary by age 5. Longer-term effects on basic maths and socio-emotional skills such as self-esteem, self-efficacy and agency, manifest even into adolescence.

In Vietnam, Young Lives data show that children in households that are affected by flooding do significantly less well in mathematics and vocabulary tests, compared to those who are not affected by flooding (Nguyen and Pham 2018). Our data also show that rainfall shocks experienced by girls between ages 12–13 have a significant negative effect on their adult height. This could partly be explained by an increase in the prevalence of infectious diseases during flooding, which may reduce the absorption of nutrients during the pubertal growth spurt in low-income settings.

Furthermore, analysis across all four study countries found that rainfall shocks and malnutrition experienced by adolescent girls *even before they became pregnant* can have a negative impact on their future children's height, again from infancy through to adolescence.

Our evidence shows that children born to mothers who experienced rainfall shocks in their adolescence have lower height-for-age (suggesting lower nutritional status) than those whose mother did not experience rainfall shocks in adolescence; this effect is shown throughout their childhood, from the age of 1 to 15 years (Georgiadis et al. 2021).

Thus, climate-crisis induced malnutrition can also be transmitted from one generation to the next.

Poorer households are less resilient to financial hardships when climate shocks hit, which can increase the risk of interrupted education

Climate-related shocks impact children and young people's learning and education in different ways throughout their lives. In Vietnam, Young Lives evidence has shown that households that are affected by floods have up to 10 per cent lower per capita household expenditure than non-affected households. Reduced household income due to crop failures (often due to climate shocks such as flooding) has a direct impact on the amount of time children spend in school, particularly those from poorer households (Nguyen and Pham 2018). Hunger can also affect a child's ability to concentrate in the classroom and increases the likelihood of missing school.

Families without savings or access to affordable credit spend less on their children's education during periods of crisis (for example, on school fees, learning materials or transportation) and are more likely to temporarily withdraw children from school, with less learning time available at home, leading to significant interruptions in education. Our data suggest that experiencing crop failures increases the probability of children dropping out of school in Vietnam by as much as 16 per cent (Nguyen 2013).

Food shortages and stresses on clean water supplies in times of flooding and other climate shocks also impact young people's daily activities. Additional household work, or extra childcare responsibilities when children are unable to go to school, often falls disproportionately on girls and young women, further reducing their time to study and increasing their risk of dropping out of school altogether.

The unequal impact of COVID-19 on levels of poverty, food insecurity and education highlights the urgency to adapt for the climate crisis

Despite significant improvements in the overall living standards of Young Lives families over the last two decades, persistent inequalities remain across all our study countries, with children and young people from poor households and in rural areas consistently disadvantaged. Our recent COVID-19 phone survey shows that widening inequalities and the adverse economic and social impacts of the pandemic could derail progress towards the Sustainable Development Goals (Ford, Thang, and Duc 2021).

In Vietnam, young people from minority ethnic groups were three times more likely to consider themselves living in households that were at least struggling, compared to those from the majority ethnic group, by October–December 2021 (Scott et al. 2022). Just under a third of young people were worried about running out of food in 2021, compared to one in seven in 2020. Worryingly, there has been a significant increase in households running out of food among minority ethnic groups (19 per cent ran out of food at least once in 2021, compared to 8 per cent in 2020).

Following the extended closure of schools and universities during the pandemic, Young Lives students (now age 19–20) reported a significant reduction in the quality of education, with a clear digital divide opening up in terms of those able to access distance learning, particularly in rural areas. In Vietnam, 22 per cent of students with no internet access had dropped out of education by the end of 2021, compared to only 3 per cent of those with access.

Young Lives evidence also shows that the pandemic has exacerbated the already heavy domestic work burden faced by girls and young women, suggesting that households tend to resort to more discriminatory gender roles at times of stress. Even where this does not result in dropping out of school, it is likely to reduce the time that girls have available to keep up with schoolwork.

Without targeted action, the climate crisis is likely to further exacerbate inequalities, just as we have seen during the COVID-19 pandemic; those who have been most impacted by the pandemic are likely to be most vulnerable to the increasing effects of the climate crisis.

Conclusion

At the United Nations Climate Change Conference in 2021 (COP26) the Vietnamese government called on countries around the world to reduce greenhouse emissions and confirmed its commitment to achieve net zero emissions by 2050. Urgent action is now required to make this ambition a reality.

Protecting the most vulnerable people from the impact of climate change requires a broad range of adaptation and mitigation measures, including 'shock-responsive' social protection programmes to reach disadvantaged households in disaster-prone regions. Ensuring that these measures are effectively targeted to safeguard children's development and learning will require much better understanding of how climate-related shocks, nutrition and learning interconnect.

With increasing extreme weather events continuing to impact the poorest families the most, we need to better understand how vulnerable communities actually experience and respond to climate-related shocks and address the persistent inequalities that hold children back.

Young Lives will continue to analyse the impact of climate change on the lives of young people in our study as we undertake new research in the coming year.

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