



Executive Summary

Education, Girls' Education and Climate Change

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Summary of evidence

This summary accompanies Emerging Issues Report (EIR) 29, which explores research and evidence on the relationship between education, girls' education and climate change.

There is scientific consensus that climate change is real, manifested through increasing temperatures, changing rainfall patterns and increasing frequency and severity of extreme weather events, including drought, flooding and cyclones (IPCC, 2012, 2014). Climate change, environmental degradation and climate vulnerability are closely linked (IPCC, 2019). Climate change exacerbates environmental and land degradation, especially in areas with drylands and permafrost, river deltas and low-lying coastal areas. There is high confidence that people living in areas affected by environmental degradation are experiencing an increase in the negative effects of climate change (IPCC, 2019). Gender, alongside other drivers of vulnerability and exclusion, is a key determinant of an individual's vulnerability to the effects of climate change and environmental degradation, and influences how climate change is experienced (Kwauk et al., 2019; Vincent et al., 2014; Muttarak & Lutz, 2014). It is estimated that at least 200 million adolescent girls living in the poorest communities face heightened risk from the effects of climate change (Atkinson & Bruce, 2015).

Although this report refers to women and girls throughout, it is important that they are not seen as a homogenous group due to a range of factors that influence identity, including poverty, age, ethnicity, disability, socioeconomic status, geographic location and HIV status, among others (Plan International, 2011; Djoudi et al., 2016). In addition, as this report highlights, women and girls should not be seen as passive victims of climate change, as this can obscure their role as powerful agents of change and may cause misinterpretation of the causes of vulnerability (Ravera et al., 2016).

Evidence and commentary on the role of education, and girls' education, to address climate change through adaptation, resilience and mitigation is limited, albeit growing. This EIR identifies and summarises evidence and key commentary around the following themes:

1. Links between education, particularly girls' education, and climate change.
2. How climate and environment matter for achieving gender equality.
3. Why securing girls' education is an important strategy in addressing climate change.

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The EIR draws on academic research and literature from low- and middle-income countries, as well as policy frameworks and grey literature, media articles and blogs from the climate, education and gender fields.

Key findings are given below for each theme.

Links between education, girls' education and climate change

It is estimated that environmental threats, which include weather-related disasters, disrupt the education of approximately 37.5 million learners across the globe each year (Theirworld, 2018). There are several ways in which climate change can disrupt – and is disrupting – education. Damage to infrastructure and transport links or displacement can disrupt learners' physical access to education facilities (Education Cannot Wait, 2020; IDMC, 2020). And there are negative effects of disasters – including weather-related ones – on children's physical and mental health and wellbeing, which can impact children's physical and neurological development and ability to concentrate (Kousky, 2016; Peek et al., 2018).

The consequences for livelihoods, food security and household income can be particularly destabilising in low-income contexts and influence decisions on schooling (Nordstrom & Cotton, 2020). These decisions include withdrawing children from education to support household chores, finding alternative income or arranging marriages. If children are not withdrawn from school, their learning and progress may still be negatively impacted by increases in household responsibilities and less time available to study (Chuang et al., 2018; Kousky, 2016).

Extreme weather events, such as floods and tropical cyclones, can disrupt learning in a variety of ways. The direct and immediate impacts of extreme weather include damage and/or destruction to education infrastructure; however, indirect and secondary impacts can last much longer (Kousky, 2016; Anderson, 2019). These include, but are not limited to: damage to road and transport links, obstructing access to school and learning; adolescent girls' unwillingness to attend school if water, sanitation and hygiene (WASH) facilities are not quickly rehabilitated; inability to pay for school fees and/or learning materials; displacement of families; and reduced capacity for learning because of malnutrition or trauma (Kousky, 2016; Anderson, 2019; Nordstrom & Cotton, 2020; Chuang et al., 2018; Siriwardhana et al., 2013).

Climate change therefore threatens to reverse developmental gains made in access to education over the past couple of decades, which is a growing risk as its effects become increasingly unpredictable and severe. The impact on children can potentially be long lasting.

Further, girls' educational access, attendance and learning outcomes risk being undone by climate change and environmental degradation (Chigwanda, 2016). Although research highlights an impact on all children, there seems to be a disproportionate impact on girls as barriers to their education are multiplied by the effects of climate change and environmental degradation, which can have long-lasting negative consequences (Chigwanda, 2016; Plan International, 2019a). A variety of factors can influence this, including an increase in household chores and responsibilities, which are typically allocated to girls in contexts where there are gendered norms; decisions to withdraw girls from education, prioritising their male siblings' education; and, in some contexts, difficulties in managing menstrual hygiene (Chigwanda, 2016; Le Masson et al., 2016; Atkinson & Bruce, 2015).

However, despite the vulnerability of the education sector and of children to the effects of climate change and environmental degradation, there is growing evidence on the important role of education to support climate resilience, adaptation and mitigation. For example, research has identified direct and indirect effects of education on reducing vulnerability to climate change, thereby decreasing the negative impact of weather-related disasters (Muttarak & Lutz, 2014). Girls' education, particularly secondary education, has been identified as the most important socioeconomic determinant to reduce vulnerability to weather-related disasters and extreme

weather (Streissnig et al., 2013, p. 5; Blankespoor et al., 2010, p. 12). The effects of weather-related disasters and extreme weather can be mitigated through effective, contextually relevant and child-centred disaster risk reduction (DRR) education (Sellabos et al., 2011).

A number of authors have commented how, despite mutually reinforcing interlinkages between girls' education and positive climate outcomes, climate strategies are largely silent on girls and overlook the role of children and young people (Kwauk et al., 2019; Send my Friend to School, 2020). The importance of quality education that encourages global citizenship and enables participation and female environmental leadership has been propelled by the rise of Greta Thunberg, the Swedish schoolgirl who spearheaded the "school strike for the climate" movement across the globe and became the face of young people's demands for international leaders to address the climate crisis (BBC News, 2020).

Greta has demanded that governments and the private sector take urgent action to meet climate targets; sailed across the Atlantic to attend the UN Climate Summit in 2019; and has galvanised around 4 million schoolchildren to join her protests across the world, which continue online due to COVID-19 restrictions (BBC News, 2020; McGrath, 2019; Thunberg, 2020). Malala Yousafzai, a Pakistani activist for girls' education who was attacked by the Taliban on her way to school, has also spoken of the importance of girls and their education as key to addressing the climate crisis (Kwauk & Braga, 2017). However, youth-led school strikes have left teachers and school leaders in high-income countries in a dilemma about whether to support their pupils due to the risk of impacting students' test scores and teacher/school performance indicators (Kwauk, 2020b).

This also highlights the important role of young people – and girls in particular – in addressing the climate crisis. Both Malala and Greta, alongside many other youth climate activists across low-, middle- and high-income countries, have become role models for their peers and contributed to putting these issues on the global agenda (Amnesty International UK, 2020; McCarthy & Sanchez, 2019).

Climate, environment and gender equality

Climate vulnerability reflects gender inequalities and exacerbates socially constructed power relations, norms and practices (Kwauk et al., 2019, p. 3; UNDP, 2016a). Therefore, climate change impacts are not gender neutral: women and men experience consequences of exposure to climate change and environmental degradation differently. In some contexts, climate change and environmental degradation exacerbate gender inequalities and impacts the abilities of individuals, households and communities to adapt. However, there is a need for more robust disaggregated data at global level to understand the connection between gender, age, inequality and exposure to disaster risk, and for greater nuance within existing evidence (UN Women & UNICEF, 2019; Rao et al., 2019).

There is some evidence to suggest that due to gendered responsibilities and household chores, women are more vulnerable to climate and environmental risks. In contexts where women and girls are responsible for running and feeding their household, the labour burden associated with collecting fuel and water is likely to increase as a result of extreme weather. This can result in spending more time having to travel further or work harder to collect necessary resources (UNDP, 2016b). Therefore, in these contexts, women face heightened vulnerability to and risk from the longer-term effects of climate change.

Due to inequalities in society and drivers of vulnerability, women and girls are more likely to be impacted in the aftermath of weather-related disasters compared with their male counterparts (Vincent et al., 2014; Neumayer & Plümper, 2007; Le Masson et al., 2016; Atkinson & Bruce, 2015). This includes a heightened probability of female fatalities, female displacement, sexual assault and gender-based violence (Neumayer & Plümper, 2007; Le Masson et al., 2016; UNDP, 2016a). Coping strategies in response to weather-related disasters, extreme weather and

subsequent reduced income include child and forced marriage, and sex work (Le Masson et al., 2016; Alston et al., 2014; Le Masson et al., 2018; Plan International, 2019b).

Therefore, the consequences of gender differences and inequalities not only influence the vulnerability of individuals to the effects of climate change, but undermine progress towards gender equality and inclusive societies.

Girls' education as an important strategy in addressing climate change

Evidence on the importance of securing girls' education – especially secondary education – to address climate change is limited, albeit growing. As highlighted above, the link between education, girls' education and gender equality as a strategy to reduce climate vulnerability is important. This is further supported by emerging evidence on the environmental benefits of transformative education for girls that develops their leadership skills, and empowers political and civil society participation and engagement (Lv & Deng, 2019; Norgaard & York, 2005; Nelson, 2019).

Education that encourages participation and empowerment has been found to increase voice and agency, and consequently support collective action on the impacts of climate change (Rao et al., 2019). In addition, it is expected that building girls' green skills, through science, technology, engineering and mathematics (STEM) education will enable the transition to a green and low-carbon economy, and support diversification in this sector (UNICEF, 2020; Kwauk, 2020a, 2020b).

Some studies claim that girls' education, coupled with sexual health and reproductive rights education and access to family planning services, is one of the most effective strategies in reducing carbon emissions, through slowing population growth (Wheeler & Hammer, 2010; Project Drawdown, n.d.; Kharas, 2016). These conclusions have received considerable criticism for overemphasising the role of girls' education as a climate mitigation strategy for two main reasons (Kwauk, 2020a).

Firstly, there is a risk that these findings have over-simplified the complex causal chain between girls' education, family planning, population size and a reduction in carbon emissions, as a variety of factors outside of education influence not only women's family planning decisions, but also the reduction of carbon emissions. Furthermore, a general inconsistency in evidence on the link between education and sexual and reproductive health in low- and middle-income countries has been identified (Psaki et al., 2019). Therefore, further research is needed to fully understand this causal chain and the role of external variables.

Secondly, and related in part to the role of external variables in the causal chain of girls' education and climate mitigation, Kwauk (2020a) and Plan International (2019a) have warned that promoting this view could distract attention from the need to take action in wealthier countries and regions with low rates of population growth but significantly higher levels of carbon emissions per capita. To effectively address climate change and environmental degradation, there is a need to understand "patterns of emission" rather than the "number of emitters" (Kwauk, 2020a).

Conclusion and recommendations

As an emerging issue, key trends are evolving around the relationship between education, girls' education and climate change. However, more robust research is needed to further understanding in this area. The available evidence can therefore inform the following recommendations that reinforce mutually positive outcomes for aligned climate, environment, gender and education planning. These have been broadly grouped into the following categories:

climate, environment and gender; education, including girls' education; and disaster response and preparedness.

Climate, environment and gender

Design climate and environment programmes to be gender-responsive. Existing gender inequalities in relation to climate and environment must be identified to ensure that any potential differential implications of planned interventions for women and men are analysed and mitigated. Gender equality and the prevention of gender-based violence should be priorities within climate and environment resilience programmes. Data collected in response to climate-related disasters or for monitoring purposes must be disaggregated by gender and disability. In the aftermath of a disaster, opportunities should be identified to shift gendered norms and promote women and girls' empowerment.

Ensure that women and girls' voices are meaningfully represented in the design of, and decision-making processes for, climate and environment programmes. A diverse group of women and girls will support planning in disaster preparedness, management, recovery and construction. A 'girl-centred' approach is required to prevent girls' protection and rights being rolled back and to ensure the ability of societies to bounce back after climate-related crises.

Ensure that gender equality objectives are explicit during the design of climate and environment programmes. It is important that climate and environment programmes ensure meaningful, equal participation of women and men throughout the project cycle; and that interventions are designed equitably to contribute to greater gender equality in outcomes.

Education, including girls' education

Support the integration of climate adaptation, mitigation and resilience into education. Climate education and education for sustainable development should engage learners and their wider communities in a way that is contextually relevant, age appropriate and action oriented. It should engage learners to be civically aware and active, and is likely to need to involve formal and non-formal interventions. Girls' education programmes must work to ensure girls transition to secondary education and are encouraged to participate in STEM education.

Invest in education programmes that develop girls' leadership skills and support girls to become agents of change within their communities. Use safe spaces and girls' clubs to introduce girls to life skills, climate change and clean technologies. Empower girls to share their ideas and activities to support the resilience of themselves, their families and their communities.

Disaster response and preparedness

In response to crises and disasters, support local partners and governments to address the disproportionate burden of unpaid work that girls absorb. This will protect girls' safety, wellbeing, and access to and enrolment in education.

Support gender-inclusive and -transformative DRR and disaster preparedness initiatives that work to limit the disproportionate impacts of disasters on vulnerable and marginalised groups. These includes child-centred DRR that can support longer-term risk reduction and adaptation for children and their wider communities.

In the context of the ongoing COVID-19 pandemic, work with local partners and governments to ensure that girls return to school as schools reopen, especially vulnerable girls and those who have become pregnant during the period of school closures. This is important as girls' climate vulnerability is intensified when they face multiple forms of marginalisation. To achieve this, cross-sector collaboration is required, especially

among education, health and social protection services (Naylor & Gorgen, 2020; Quak, 2020). This includes addressing girls' economic barriers to education; providing safe spaces for girls for protection and learning during school closures; and ensuring distance learning programmes are gender responsive and accessible to marginalised girls.

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