



How Gender-responsive Age-sensitive Social Protection is Related to the Climate Crisis

A summary of the evidence

Zahrah Nesbitt-Ahmed

UNICEF INNOCENTI – GLOBAL OFFICE OF RESEARCH AND FORESIGHT

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Summary points

Girls, boys and women are especially vulnerable to climate shocks – both sudden-onset (e.g., extreme weather events, such as floods) and slow-onset (e.g., desertification) – with specific gendered risks based on age and stage of the life course. Negative climate impacts, caused either by sudden- or slow-onset climate shocks include, but are not limited to: income insecurity, livelihood insecurity, food insecurity and reduced nutrition from crop or livestock loss; loss of homes or assets due to climate disasters; forced displacement, relocation or migration induced by climate change; risks to health; children and women left behind by migrating family members; disruption to children’s education; children and women’s increased exposure to violence; women and girls’ increasing care responsibilities; or the risk of resorting to negative coping strategies (e.g., early marriage).

Discriminatory social and gender norms, women’s inadequate access to and control of assets and crucial resources (e.g., land, markets, fertilizer, seeds, financial capital, technologies), concentration in low-wage casual employment (e.g., agriculture and the informal economy), limited bargaining power and poor representation in policy discussions and key decision-making processes are some of the factors that can play a role in increasing girls’, boys’ and women’s vulnerability to the climate crisis.

Growing attention has been paid over the last two decades to the potential role that social protection can play in addressing gendered risks, vulnerabilities and inequalities across the life course, including in the areas of education, health, violence, livelihoods and economic empowerment.

Gender-responsive and age-sensitive social protection – an important instrument in a suite of tools in the broader response to the climate crisis – can also play a crucial role in addressing or minimizing negative climate impacts, including those that affect girls, boys and women.

Social protection instruments that can contribute to addressing gendered and aged risks and vulnerabilities caused by climate shocks include, but are not limited to: cash transfers, public works programmes, jobs and skills training/retraining, and cash plus programmes, which link cash transfer programmes with supplementary agricultural support or services such as health or violence prevention and response. There is growing interest in linking social protection to microinsurance or weather-based crop insurance against disasters. These can be particularly effective when designed intentionally to address climate objectives in a gender-responsive way, and implementation mechanisms enable these objectives to be delivered.

The evidence on the ways gender-responsive and age-sensitive social protection can contribute to addressing the impacts of climate-related risks on girls, boys and women can be organized into four categories, albeit the robustness and quantity of evidence for these four categories varies:

- 1. Reducing underlying risks** that make women and children especially vulnerable to climate stresses and shocks and strengthening their resilience before the crisis hits;
- 2. Supporting adaptation** by helping women and children at individual, household and community levels to adapt to more climate-resilient livelihoods to reduce future susceptibility to shocks;
- 3. Strengthening disaster recovery** through broader disaster recovery efforts by supporting households and communities to 'build back better' through strategies that are inclusive of the gender-differentiated needs of women and children affected by climate shocks; and
- 4. Accelerating just transitions to green economies** to advance a gender-transformative agenda for the climate response by investing in the creation of decent jobs in strategic green sectors, including the care economy, and increasing support for individuals and households, including unpaid caregivers, affected by green policies on jobs and livelihoods.

Social protection measures have been introduced, adapted or expanded to support individuals, households and communities impacted by the COVID-19 pandemic. The public policy responses to the crisis reveal the vital importance of social protection in reducing vulnerability, especially during unprecedented crises. Lessons can be learnt from the COVID-19 actions and responses for adapting gender-responsive social protection to better prepare for climate-related crises.

In the face of an unprecedented climate crisis, there is an urgent need for evidence-building to inform how to integrate social protection and climate change action with a view to maximizing gender-equitable outcomes in areas such as education, health, violence and economic empowerment.

1. Introduction

“We need gender-responsive policies – and gender-focused social protections [...] [that] can keep individuals and entire societies afloat during times of disaster.” (Michelle Bachelet, UN High Commissioner for Human Rights)

What role can gender-responsive and age-sensitive social protection play in minimizing and addressing the negative impacts of the climate crisis on girls, boys and women? And what further potential does it hold? This review of the literature on climate change, gender and social protection seeks to answer these questions. At the time of writing in 2022, the impacts of climate change were becoming increasingly frequent and intense around the world,¹ reflected in both sudden-onset climate disasters (e.g., droughts, floods and wildfires) and slow-onset climate impacts (e.g., rising temperatures, rising sea levels, changing rainfall patterns and desertification) (Anderson, 2021; UNEP et al., 2019).

The 2021 Intergovernmental Panel on Climate Change (IPCC) report on the physical science of climate change, written by 234 authors from 66 countries citing 14,000 references, emphasizes more frequent and severe extreme weather events that can be traced back to human behaviour (IPCC, 2021). The second part of the IPCC report, involving 270 authors from 67 countries and drawing from 34,000 studies, reiterates that climate change is already impacting every corner of the world, with more severe impacts on the horizon if greenhouse gas emissions are not rapidly reduced by half, which will make options for scaling up adaptation “increasingly limited” (IPCC, 2022). World leaders, climate experts and activists also gathered in Glasgow in 2021 for the 26th Conference of the Parties (COP26) to the United Nations Framework Convention on Climate Change to discuss the climate crisis and solutions and negotiate climate commitments and actions. While the 27th annual conference of parties (COP27) in Sharm El-Sheikh in Egypt in November 2022 aimed to further advance global climate talks.

Climate shocks “manifest adversely on people’s lives and livelihoods” (Rao et al., 2019:965), leading to direct and indirect impacts that can increase individuals’, households’ and communities’ vulnerabilities and push them further into poverty. The impacts of sudden- or slow-onset events can lead to, among other things: severe damage to and loss of homes, possessions, properties and communities; loss of income and livelihood sources, as well as food insecurity, risks to human health and reduced nutrition from crop or livestock loss; land degradation and water scarcity; and increasing climate-induced migration, relocation² and displacement (Akter, 2021; Anderson, 2021; Rao et al., 2019; UNEP et al., 2019).

Girls, boys and women at different ages and stages of the life course – particularly those living in areas (e.g., rural areas) where their livelihoods depend heavily on natural resources and agriculture (FAO and Red Cross Red Crescent Climate Centre, 2019) – are especially vulnerable to climate-related crises for a range of reasons. For example, women’s high vulnerability to, and limited capacity to cope with, climate hazards can be due to low incomes, lack of savings, weaker social networks, low asset bases (e.g., land ownership) and heavy reliance on agriculture and natural resources (FAO and Red Cross Red Crescent Climate Centre, 2019).

Climate shocks are also pushing the most vulnerable groups, including children, further into poverty and at the same time increasing their risk of experiencing the worst effects of climate change (UNICEF, 2021a), due to factors such as rising food prices and impacts on health (e.g., stunting). Recent estimates suggest that up to 132 million additional people will be pushed into extreme poverty by 2030 because of climate change (Jordan et al., 2021). In addition to the above impacts, children and women may also be left behind by migrating family members, may experience increased exposure to violence or an increase in their domestic or care responsibilities, or risk adopting negative coping strategies (e.g., early marriage). Gender, age and other intersecting inequalities, such as disability, ethnicity and location, together with poverty, mean children and women have less access to assets, resources and opportunities (Camilletti, 2020), making it both more difficult to cope with shocks and crises when they happen, and more likely that they are overlooked in solutions.

1 Droughts in the Sahel region and across Europe, including the Mediterranean, heat waves in Canada and the United States of America, wildfires raging across Greece, Italy and Turkey, and heavy rains and floods hitting Belgium, Germany and India.

2 For example, high levels of vulnerability to climate change impacts are rendering some places uninhabitable. In Fiji, a number of communities have already initiated or completed the task of moving their homes and livelihoods to less exposed locations, with numerous more communities earmarked for future relocation (Piggott-McKellar et al., 2019).

Growing attention has been paid over the last two decades to the potential role that social protection can play in addressing gendered risks, vulnerabilities and inequalities across the life course, including in the areas of education, health, violence, livelihoods and economic empowerment (Bastagli et al., 2016; Camilletti, 2020; see also the Transfer Project³ on evidence on cash transfers and equitable gender relation). Increasingly, it is being recognized that social protection can also play a crucial role in responding to crises, including those related to climate change (Costella et al., 2021; Tenzing, 2020; Ulrichs et al., 2019) in general, and to extreme events, such as floods and droughts, in particular. The public policy responses to the COVID-19 pandemic reveal the vital importance of social protection in reducing vulnerability, especially during unprecedented crises. Specifically, the pandemic saw the introduction, adaptation or expansion of social protection measures in 222 countries and territories to support individuals, households and communities impacted by the crisis (Gentilini et al., 2021).

The pandemic also shone a light on gender inequalities, including the increased risk of exposure to violence, the gender division of labour at home and at work, and the increased time women and girls spend caring for household members. Lessons can be learnt from the COVID-19 actions and responses for adapting social protection to better prepare for climate-related crises, and for informing public policy responses that recognize the centrality of care for economies and societies. Indeed, an increasing body of research, including from feminist economists and researchers, argues that care work – which is largely undertaken by women and girls – should be at the core of a sustainable and gender-just economy to advance a gender-transformative agenda (Palladino and Gunn-Wright, 2021; UN Women, 2021), and that close attention should be paid to the connections between social protection, climate change and care work.

Methodology

Despite the increasing evidence of links between climate change and social protection, gender and climate change, and gender and social protection, links between climate change and social protection remain less well explored from a gendered perspective. This paper is not a systematic review. Instead, it draws on a brief review of the evidence available for links between social protection, climate action, life course and gender equality – in English, from low- and middle-income countries. The analysis draws on peer-reviewed theoretical and empirical literature, mostly published after 2014, including grey literature from international organizations, donors, civil society organizations and non-governmental organizations.

The literature was identified through web and keyword searches, with titles and abstracts initially reviewed for relevance to the research scope, followed by a snowball method in which bibliographies from relevant papers were reviewed. Particular attention was paid to the type of social protection (e.g., cash transfer, public works programmes, social care services), evaluation methods (e.g., mixed methods) and gender and climate impacts. Relevant articles that met the following four evaluation criteria were then selected for inclusion (Richardson, 2018):

1. **Conceptually coherent:** Does the research effectively operationalize the concepts of interest? Is the evidence directly related to the measurement of the core concept or via a proxy concept? Does the narrative behind the empirical test make sense?
2. **Method appropriateness:** Does the author use an appropriate method to test associations between the core elements and the outcomes?
3. **Scientifically valid:** Are the research results fully (in terms of reported information, i.e., probability statistics, sample sizes, etc.) and correctly analysed and interpreted?
4. **Ethically just:** Was the research conducted in an ethically just manner? For social protection programmes, was the implementation conducted ethically?

3 The Transfer Project is a multi-country cash transfer research initiative established in 2008 in collaboration with UNICEF Innocenti, the Food and Agriculture Organization, University of North Carolina, UNICEF Regional and Country Offices, national governments and local research partners. Since 2008, it has generated evidence highlighting the beneficial effects that cash transfers have on creating gender-equitable outcomes, such as intrahousehold relations and decision-making, and reducing emotional and physical domestic violence. See: <https://transfer.cpc.unc.edu/themes/>

BOX 1**Key terms**

Adaptive capacity refers to “the ability of systems, institutions, humans, and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences” (IPCC, 2014: 118).

Climate change adaptation means: “in human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate and its effects” (Costella et al., 2021:4).

Disaster risk reduction aims at “preventing new and reducing existing disaster risk, and managing residual risk, all of which contribute to strengthening resilience and therefore to the achievement of sustainable development” (United Nations Office for Disaster Risk Reduction (UNDRR), n.d.).

Gender equality refers to “the equal rights, responsibilities and opportunities of women and men, and girls and boys” (UN Women, n.d.b).

Gender-transformative change refers to changes at the individual, household, societal and system levels that explicitly address “unequal gender relations in order to promote shared power, control of resources, decision making and support for women’s [and girls’] empowerment” (UNDP, 2019), and achieve gender equality (see Camilletti et al., 2022).

Resilience to climate-related threats, according to the Building Resilience and Adaptation to Climate Extremes and Disasters (BRACED) project, includes the capacity to anticipate, absorb and adapt to climate shocks and stresses (i.e., the ‘3As’ framework) (Bahadur et al., 2015, cited in Ulrichs and Slater, 2016:8).

Shocks can be classified as either “covariate” or “idiosyncratic” (OPM, 2015, cited in Barca et al., 2019):

- covariate shocks affect a considerable proportion of the population simultaneously (e.g., hurricanes, floods, conflict);
- idiosyncratic shocks affect individual households or household members (e.g., the death of a breadwinner or catastrophic illness).

Social protection refers to “a wide range of intervention types, programmes and policies aimed at addressing short- and long-term risks and stressors that can draw people into poverty by preventing and/or protecting them against vulnerabilities related to their living conditions and experienced through their life time” (UNICEF, 2019a).

Gender-responsive age-sensitive social protection considers that risks and vulnerabilities are gendered, and promotes boys’ and girls’, and men’s and women’s well-being throughout the life course (UNICEF, 2020a).

‘Shock-responsive’ and ‘adaptive’ social protection are often used interchangeably, but “both terms increase attention on the role that social protection can play in advance of, and in response to, covariate shocks (i.e., shocks that affect a large proportion of the population simultaneously) for immediate, medium- and longer- term support – alongside other sectors” (UNICEF, 2019b:3). There are five key options for shock-responsive adaptation, and a combination of these may be most appropriate (O’Brien, 2018:III):

- **design tweaks** – making small adjustments to the design of the core programme;
- **piggybacking** – borrowing elements of an existing programme or system while delivering a separate emergency response;

- **vertical expansion** – topping up support to beneficiaries;
- **horizontal expansion** – extending support to new households; and
- **alignment** – aligning social protection and/or humanitarian interventions with one another.

Vulnerability is “the susceptibility of people and places to risks such as extreme events, environmental change, and non-climatic shocks and stressors” (Ford et al., 2018, cited in Singh et al., 2021:961).

While there is a vast literature on social protection and climate change, very few articles have covered the intersection of all four areas (climate change, social protection, gender and life course), reflecting the infancy of these linkages in this field of study. However, most of the literature included in this paper was at the intersection of at least two search terms (e.g., climate change and social protection, gender and climate change, gender and social protection).

Structure of the paper

The next section discusses some of the gendered impacts of the climate crisis, reflecting that it is not within the remit of this paper to cover all climate-related impacts on girls, boys and women. Rather, this paper offers an overview of key trends emerging in the current literature. Then, the paper explores the potential for social protection to address these climate-related impacts on girls, boys and women. Here, it organizes the evidence for ways in which social protection can contribute to climate responses for gender-transformative change into four categories, each with different degrees of robustness and quantities of evidence on their roles from a gendered perspective:

1. **Reducing underlying risks** that make women and children especially vulnerable to climate stresses and shocks and strengthening their resilience before the crisis hits by, for instance, helping to increase their income, consumption and capacity to cope;
2. **Supporting adaptation** by helping children and women at individual, household and community levels to adapt to more climate-resilient livelihoods to reduce future susceptibility to shocks by, for example, promoting the adoption of more productive and climate-resilient investments to respond to shocks;
3. **Strengthening disaster recovery** through broader disaster recovery efforts by supporting households and communities to ‘build back better’ through strategies that are inclusive of the gender-differentiated needs of children and women affected by climate shocks, such as contributing to rehabilitating community assets and infrastructure; and
4. **Accelerating just transitions** to green economies to advance a gender-transformative agenda for the climate response by investing in the creation of decent jobs in strategic green sectors, including the care economy, and increasing support for individuals and households, including unpaid caregivers, affected by green policies on jobs and livelihoods.

In presenting the evidence, this paper does not seek to overstate gender-responsive social protection’s contribution to minimizing the climate crisis. Instead, it sees social protection as an important instrument in a suite of tools in the broader response to the climate crisis, especially from the perspective of children and women’s resilience. Additionally, the paper recognizes that evidence for the potential role of social protection in addressing climate risks and shocks focuses more on sudden-onset events (Tenzing, 2020; Ulrichs et al., 2019) and less on slow-onset events. The paper ends by highlighting the urgent need to expand and extend coverage of gender-responsive and age-sensitive social protection systems in the face of increasing and intense climate shocks. This will require generating evidence to inform policies on how to integrate social protection and climate change action with a view to maximizing gender-equitable outcomes in areas such as education, health, violence and economic empowerment.

2. Gendered impacts of the climate crisis

“The evidence demonstrates that men and women are exposed to different climate shocks and experience different impacts.” (Kristjanson et al., 2017:495)

There is increasing recognition that climate impacts are “nuanced, often unexpected, and depend on the type of shock and the local context” (Kristjanson et al., 2017:485), with gendered differences between girls, boys, women and men (Jordan, 2019). For example, in their gender analysis of climate-induced migration in South Asia, Sawas and Bose (2021:13) noted that in marginalized communities, when climate change destroys livelihoods (e.g., farming and fishing), societal expectations of men as breadwinners can put them “under considerable pressure” to “maintain family stability.” For instance, several studies have indicated that a rise in suicides among male farmers in India can be linked to climate change (Carleton, 2017; Kennedy and King, 2014; see also Jordan, 2019; Sawas and Bose, 2021). This is due to the high levels of stress that men experience during periods of food insecurity, when they are expected to provide food for the family (Jordan, 2019; see also Sawas and Bose, 2021).

However, evidence demonstrates that girls, boys and women, including those living in vulnerable households and communities in Small Island Developing States and agricultural regions, are especially vulnerable to climate change, relative to men (du Bray, 2018; Kristjanson et al., 2017; Quisumbing et al., 2017; Sammie et al., 2020; Ulrichs et al., 2019). For example, across many regions, women and girls may have increased health risks due to the climate shocks compared with men and boys (van Daalen et al., 2020). Climate change can impact mortality and morbidity through the effects of high temperatures, heat waves or floods (Sellers, 2016), while affecting women’s ability to seek reproductive and maternity health services (van Daalen et al., 2020; see also sexual and reproductive health rights).

Evidence further indicates that – compared with men – women also have unequal access to and control of assets and crucial resources, such as land, markets, fertilizer, seeds, financial capital and labour (Jost et al., 2016; Rao et al., 2019). Discriminatory social and gender norms,⁴ limited mobility (Balikoowa et al., 2019; Sawas and Bose, 2021), limited bargaining power and poor representation in policy discussions and key decision-making processes (Holmes, 2019; Kristjanson et al., 2017; Sawas and Bose, 2021; UNICEF, 2020a) play a role in increasing girls’, boys’ and women’s vulnerability to the climate crisis.

Moreover, due to prevailing social and gender norms that have a negative impact on women’s freedoms, choices and opportunities, women: tend to rely on climate-sensitive activities (e.g., collection of water and fuelwood); tend to have limited access to climate information; are concentrated in low-wage casual employment, such as agriculture and the informal economy; tend to access different social networks; and are less likely to have insurance (FAO and ARC, 2021; Holmes, 2019; Jost et al., 2016; Rao et al., 2019). These structural and individual drivers of inequality can often lead to children and women having lower adaptive capacities, which means that their vulnerability to climate change is also increased (see also Box 1), restricting their ability to cope with and their capacity to respond to the negative effects of climate change, relative to men (Holmes, 2019:6; Jost et al., 2016; Rao et al., 2019; Singh et al., 2021).

Several studies have indicated that climate shocks also pose specific gendered risks based on age and stage of the life course. For example, changes in infectious diseases, temperature and nutritional status can have an impact on pregnancy-related outcomes (van Daalen et al., 2020), and pregnant women are often at increased risk of miscarriage and premature birth “due to unsanitary conditions and lack of access to healthcare professionals caused by climate change” (Sawas and Bose, 2021:15). Children and adolescents are often disproportionately exposed to climate disasters (see Box 2), and climate shocks can, for instance, negatively affect their access to key essential services (UNICEF, 2021a). Children’s limited access to services can, in turn, reduce their resilience and adaptive capacity, further increasing their vulnerability to climate and environmental hazards (UNICEF, 2021a).

While most of the literature reviewed for this working paper focused on women of working age and children, a few studies revealed that climate shocks can also pose specific risks to older women and men. For example,

⁴ Social norms can be defined as “the perceived informal, mostly unwritten, rules that define acceptable and appropriate actions within a given group or community, thus guiding human behaviour” (UNICEF, 2021b:1). Gender norms are “informal, deeply entrenched and widely held beliefs about gender roles, power relations, standards or expectations that govern human behaviours and practices in a particular social context and at a particular time” (UNICEF, 2020b:1).

Carr and Thompson's (2014) study in Mali (cited in Jordan et al., 2021) found that older women may be more vulnerable to variable precipitation than younger women as they are more reliant on added market sales of rain-fed peanuts grown in their home gardens to bolster their earnings. Older people, and particularly women, are especially vulnerable to food insecurity.

Evidence from HelpAge indicates several factors behind older people's vulnerability to climate change, including food insecurity. These risk factors include being disproportionately affected by heat waves (Sellers, 2016), their "significantly higher mortality risk in extreme weather", "increased susceptibility to disease, reduced mobility and the effects of stresses on the food and water supply" (HelpAge, 2015:2), their "chronic health problems and social isolation" (HelpAge, 2015:3) and limited access to services. For example, water scarcity can have detrimental impacts on older women and men, including increased mortality due to their "increased susceptibility to dehydration" (HelpAge, 2015:2). Older people can also "struggle to travel long distances or endure short periods without shelter" (HelpAge, 2015:7).

These climate impacts may be heightened by other intersecting factors – such as caste, disability, ethnicity and location (Carr et al., 2016; Erwin et al., 2021; Holmes, 2019; Onta and Resurreccion, 2019; Osbourne, 2015; Ravera et al., 2016; Van Aelst and Holvoet, 2016) – that may in turn further limit children's and women's participation in institutions or access to resources that would help them adapt (Ahlborg and Nightingale, 2018; Nightingale, 2017). For example, research from the International Disability Alliance (2021) indicates that people with disabilities of all genders may face heightened risks in disaster response contexts, including barriers to inclusion, discrimination and exploitation. Case studies have also demonstrated how women's adaptive capacity can be further affected by their marital status in Tanzania (Van Aelst and Holvoet, 2016) and caste and vulnerability in India (Onta and Resurreccion, 2019).

Drawing on the evidence from the literature reviewed, the rest of this section provides an overview of some of these sudden- and slow-onset climate events and their associated impacts on girls, boys, men and women across the life course.

Income, livelihoods and food security

A strong body of evidence demonstrates that the consequences of climate shocks, such as crop failures resulting from droughts, may impact livelihoods, food security and household income (Balikoowa et al., 2019; Jordan, 2019; Kristjanson et al., 2017; Lee et al., 2021; Rao et al., 2019; Ulrichs et al., 2019), which can be "particularly destabilizing" (Sims, 2021:2) in low-income contexts. For example, for pregnant women, inadequate nutrition and food insecurity due to crop failure can affect pregnancy, nursing and the health of newborns, such as low birth weights (Women Deliver, 2021). Climate shocks are also forcing the most vulnerable groups, including children, deeper into poverty (UNICEF, 2021a), as they push food prices up.

The effects of climate change and disaster risk, combined with the impacts of COVID-19, have exacerbated poverty levels (UNDRR, 2020). Research further reveals that climate shocks can cause households to adopt negative coping strategies. Such strategies might involve, for instance, arranging child marriages or pulling children, particularly girls, out of school (see the Education section below) to support with paid and unpaid care and domestic work such as caring for younger siblings (see the next section) or child labour activities, such as domestic work, where boys or girls are sent to other households to perform a range of domestic activities. For example, in Nepal and Bangladesh, research has found that adolescent girls can be pulled out of school and made to marry to alleviate financial hardship caused by extreme weather events (Women Deliver, 2021). This is also reflected in a United Nations Population Fund (UNFPA) (2022:3) brief, where "the economic effects of environmental crises⁵ were described as a driver of child marriage.

5 The UNFPA brief (2022:3) describes environmental crises as "all forms of environmental breakdown, including climate crises, biodiversity loss and other challenges to sustainable development that centre on environmental factors".

BOX 2

Climate impacts on children and adolescents

Global evidence from the Children's Climate Risk Index on the number of children "currently exposed to a variety of climate and environmental hazards, shocks and stresses" (UNICEF, 2021a:10), indicates that:

- 820 million children (over one third of children globally) are currently highly exposed to heat waves;
- 400 million children (nearly 1 in 6 globally) are currently highly exposed to cyclones;
- 330 million children (1 in 7 globally) are currently highly exposed to riverine flooding;
- 240 million children (1 in 10 globally) are currently highly exposed to coastal flooding;
- 920 million children (over one third of children globally) are currently highly exposed to water scarcity;
- 600 million children (over 1 in 4 children globally) are currently highly exposed to vector-borne diseases, such as malaria and dengue;
- 2 billion children (almost 90 per cent of children globally) are currently highly exposed to air pollution that exceeds $10\mu\text{g}/\text{m}^3$; and
- 815 million children (over one third of children globally) are currently highly exposed to lead pollution due to exposure through contaminated air, water, soil and food.

Children are more vulnerable to these climate shocks than adults for a range of reasons, including being physically more vulnerable to and less able to withstand and survive shocks such as floods, droughts, severe weather and heat waves, as well as physiologically more vulnerable to toxic substances (e.g., lead). They are also more at risk of death compared with adults from diseases that are likely to be exacerbated by climate change, such as malaria and dengue. This can result in a lifetime of lost opportunity (UNICEF, 2021a).

Unpaid care and domestic work

The reviewed studies indicate that climate shocks can increase women's and girls' domestic and caring roles and responsibilities due to impacts on water availability and food production (Anderson, 2021; Jordan, 2019; Lowe et al., 2019; UNEP et al., 2019). Across the world, women and girls tend to be largely responsible for unpaid care and domestic work in the household and community: globally, "women perform 76.2 per cent of total amount of unpaid care work, 3.2 times more [hours] than men" (ILO, 2018:xxix). This too can increase the burden on women and girls. Evidence from empirical research on women and girls coping with the El Niño drought in Mozambique indicates that "many women and girls experienced a tripling of their water collection burden [...] with the time taken to locate and transport water increasing from two hours each day pre-drought to more than six hours each day during the prolonged drought" (Fisher, 2016, cited in Lowe et al., 2019:25). Both theoretical and empirical studies suggest that this time poverty limits opportunities to access education and employment (Chopra, 2014; UNICEF, 2020a), while adversely affecting health, well-being and nutrition (Aker, 2021). Other negative consequences for women's well-being highlighted in the studies reviewed include reduced leisure time and increased exhaustion (Anderson, 2021).

Education

The literature also specifies the role that extreme weather events, such as floods, can play in disrupting children's education (Anderson, 2019a; Kousky, 2016; Nordstrom and Cotton, 2020; Sims, 2021; UNFPA, 2022). For instance, research from Bangladesh has found that families had to take their children out of school to adapt to climate impacts (UNFPA, 2022). In a review of the research and evidence on the relationship between education, girls' education and climate change, Sims (2021) cited damage and/or destruction to education infrastructure as a direct impact of extreme weather that affects children's access to physical education facilities. Indirect impacts include, but are not limited to: damage to roads and infrastructure, which reduces access to schools; difficulties in paying for school fees and/or learning materials; displacement of families (see next section); and reduced capacity for learning because of malnutrition or trauma (Sims, 2021; see also Anderson, 2019a; Kousky, 2016; Nordstrom and Cotton, 2020).

Although research highlights the impact of climate shocks on all children's education, evidence suggests that girls' schooling is disproportionately impacted by the effects of climate change (Chigwanda, 2016; Plan International, 2019; Sims, 2021). A variety of factors can influence this, including an increase in domestic and care work (see above), prioritizing boys' education in contexts of limited financial resources (UNFPA, 2022), withdrawing girls from school and, in some contexts, difficulties in menstrual hygiene management if water, sanitation and hygiene facilities are not restored quickly (Chigwanda, 2016; Sims, 2021).

Climate-induced movement

Research indicates that climate change may also accelerate temporary or protracted forced displacement, relocation or migration (Internal Displacement Monitoring Centre, 2020; Sawas and Bose, 2021; Singh et al., 2021). According to the IPCC (2022) report, since 2008, sudden-onset events have displaced on average over 20 million people annually, with numbers projected to increase. Migrants and displaced people of all genders often have a variety of needs and are exposed to different risks before, during and after climate-induced movement. For example, in a qualitative comparative analysis of climate change in rural communities in Africa and Asia, Rao et al. (2019:965) found that, due to increased frequency and intensity of extreme weather events, men of working age, particularly young men, "migrate out, looking for off-farm economic opportunities or to access pastures for their livestock and cattle and often risky informal sector activities". This out-migration often leaves many women, families and communities across Africa, Asia (and Latin America) behind, driving the feminization of agriculture and further increasing girls', boys' and women's workload, reducing social and economic support and limiting access to resources (Jost et al., 2016; Rao et al., 2019). Additional out-migration of women from communities affected by environmental disruptions risks exacerbating children's workloads. In some communities, empirical studies have found that women left behind often report that the absence of their husbands due to migration means they are at greater risk of harassment and sexual and violent assault outside of their homes (Anderson, 2021; see also next section). Additionally, children and women displaced by disaster are also often at greater risk of harassment or violence (see next section).

Moreover, evidence indicates that, following climate disasters, older women and men "may be less willing [or unable] to flee from potential harm" (HelpAge, 2015:7), particularly those that are frail or housebound. Similarly, research suggests that people with disabilities may be unable to move out of harm's way because they cannot access evacuation routes, because there is an absence of support or because of social exclusion (International Disability Alliance, 2021). People with disabilities might also be unable to travel. Older persons or people with disabilities left behind may be forced to remain in environments without housing, employment opportunities, social networks or access to services such as healthcare (HelpAge, 2015; International Disability Alliance, 2021).

Violence against children and women and harmful practices

A growing body of evidence demonstrates that climate-related disasters expose women and girls to a greater risk of violence, transactional sex, exploitation and trafficking, and other harmful practices (Anderson, 2021; Camey et al., 2020; Jordan et al., 2021; Le Masson et al., 2019; Memon, 2020; UNEP, 2020). For example, research in Uganda following droughts between 2014 and 2018 revealed increases in “rates of domestic violence, sexual abuse and female genital mutilation (FGM)” (Women Deliver, 2021:8), while a study in Kenya reported one response to economic shocks brought about by droughts involved families “arranging for their girls to undergo FGM and get married, with the families receiving a bride price in return” (Esho et al., 2021, cited in UNFPA, 2022:5). A severe drought, for instance, may require that women and girls walk longer distances to collect water, which can increase their exposure to risk of violence. These risks can be heightened when staying in temporary shelters (see previous section), which can often feel unsafe and lack privacy (UNFPA, 2022). Additionally, several studies reveal that hunger caused by crop failure as a result of climate shock can lead to women experiencing higher incidences of domestic violence (Anderson, 2021). This can be described as poverty-related stress, which evidence indicates can often be a trigger for male violence against their partners (see, for example, Buller et al., 2018).

Sexual and reproductive health rights

A growing body of research demonstrates that climate-related disasters may not only create barriers to accessing sexual reproductive and health rights services (Plan International, 2019) but also strain the capacity of health systems to deliver services (Women Deliver, 2021) because of disruption (e.g., physical damage to health facilities reduces supply). For example, in 2013, Typhoon Haiyan in the Philippines destroyed many health facilities, “which left pregnant women without access to antenatal care for a month, with many women having to walk longer distances to regain access to services” (Women Deliver, 2021:9). A few studies have also shown that limited or reduced access to quality sexual reproductive and health rights services because of climate disasters can affect access to emergency contraception (Women Deliver, 2021).

Children and women as climate change agents

A growing body of evidence focuses on critical opportunities to engage with children and women and support their agency in responding to the climate crisis and building resilience (Chowdhury et al., 2021; Leisher et al., 2015; Mavisakalyan and Tarverdi, 2018; Sawas and Bose, 2021). Yet children’s and women’s roles as change agents are often overlooked (FAO and ARC, 2021; Sawas and Bose, 2021), which can reduce opportunities to achieve gender equality (Dhir, 2017). Evidence suggests that, when meaningfully engaged and equally included in discussions and decision-making over climate policy and programming, women can contribute significantly to resilience and adaptation strategies and solutions (FAO and ARC, 2021; Sawas and Bose, 2021). Such engagement can result in improved environmental policies, more resilient and sustainable environmental outputs, and better enforcement of collective rules around resource management (Sawas and Bose, 2021).

Several studies have also explored women’s first-hand experience of responding to climate impacts and improving the effectiveness of climate action (Pereznieta and Holmes, 2020; see also Chowdhury et al., 2021). For example, studies have discussed the unique knowledge, skillsets and perspectives that women have as a result of the multiple and crucial roles they play in agricultural production and in their household’s food security through, for example, their involvement in land preparation, weeding, food processing and preparation, collecting natural resources, maintaining food and water provision, and supporting their family and community through seasonal and sudden-onset shocks (Doss et al., 2018; Lee et al., 2021). A few studies have singled out older people’s knowledge of weather and climate patterns as “a potential way to make

huge contributions to actions minimizing the impacts of unpredictable weather caused by climate change” (HelpAge, 2015:6). As noted by HelpAge (2015), older women and men have knowledge and experience of traditional land use and farming techniques that can increase production and reduce waste while minimizing environmental damage. Indigenous Peoples’ traditional knowledge and knowledge systems are also critical to transitioning to just and sustainable economies, as they “hold unique knowledge systems and practices for the sustainable management of natural resources” (Recio and Hestad, 2022:2), which may help society at large to cope with impending climate changes.

A significant body of research also indicates that women, including from Indigenous communities, can and do play critical leadership roles in response to climate change, including as activists and leaders (Cabot Venton, 2021; Lindley-Jones, 2018). Indigenous Peoples are usually among the first to face the direct consequences of climate change, including loss of land and resources, human rights violations, poor socio-economic conditions, and discrimination (ILO, 2017), and their leadership is vital. For example, “Indigenous Peoples’ efforts played a pivotal role in the adoption by the UNFCCC [United Nations Framework Convention on Climate Change] of the 2010 Cancun Safeguards, which recognize the need to ensure respect for the knowledge and rights of Indigenous Peoples” (Recio and Hestad, 2022:8). Many Indigenous Peoples are also at the frontline of resisting the drivers of the global environmental crisis, yet international and national policies and laws do not recognize and support their collective rights (Tauli-Corpus et al., 2020, cited in Recio and Hestad, 2022).

The role that children and adolescents can play as climate change agents should not be overlooked. This has been demonstrated by student climate protesters around the world, the majority of whom are adolescent girls and young women, and by climate activists such as Kenya’s Elizabeth Wathuti, Samoa’s Brianna Fruean, Sweden’s Greta Thunberg and Uganda’s Vanessa Nakate. Moreover, during the 2021 Glasgow Climate Change Conference, the United Kingdom’s Guardian newspaper highlighted the leadership of six young Indigenous women. Sims’ (2021) report on the relationship between education, girls’ education and climate change suggests that education, particularly girls’, can strengthen climate strategies in three ways: by empowering girls and advancing their sexual reproductive and health rights, by fostering girls’ climate leadership and pro-environmental decision-making, and by developing girls’ green skills for green jobs.

Finally, a few studies have highlighted that local actors,⁶ including women-led and youth-led organizations, can be critical in addressing climate impacts (Cabot Venton, 2021; Chowdhury et al., 2021; Soanes et al., 2021), with lessons drawn from the COVID-19 pandemic social protection response. During the pandemic, for example, locally based actors were often the first responders to the crisis, able to adapt and respond quickly to meet the needs of their communities (Cabot Venton, 2021). Furthermore, evidence indicates that working with local actors in crisis response can lead to a timelier, more appropriate and relevant, more accountable response – one that mitigates the risks facing women and girls and other marginalized groups (Cabot Venton, 2021).

6 According to Cabot Venton (2021:3), local and national non-state actors are “organizations engaged in relief that are headquartered and operating in their own aid recipient country and which are not affiliated to an international NGO. (A local actor is not considered to be affiliated merely because it is part of a network, confederation or alliance wherein it maintains independent fundraising and governance systems.)

3. The potential for gender-responsive age-sensitive social protection to respond to the climate crisis

“Investments that improve access to social protection and reducing poverty can considerably reduce overall climate risk for 310 million children.” (UNICEF, 2021a:16)

Increasingly, it is being recognized⁷ that social protection instruments – such as cash transfers, cash plus and public works programmes – can help to address the risks and vulnerabilities to which individuals, households, communities and economies are exposed from climate shocks (Anderson, 2021; Tenzing, 2020; Ulrichs et al., 2019). For instance, in 2013, at COP19, the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts was established to address (including through social protection mechanisms) loss and damage associated with climate impacts (including sudden- and slow-onset events) in low- and middle-income countries, which are particularly vulnerable to the effects of climate change (Aleksandrova, 2019). Commitments to strengthen social protection systems for disaster risk reduction have also been made by countries that have signed the Sendai Framework for Disaster Risk Reduction 2015–2030 and the United Nations Convention to Combat Desertification (Aleksandrova, 2019). Finally, organizations such as the Food and Agriculture Organization (FAO), the International Labour Organization (ILO) and the World Bank have also integrated climate risk considerations into their social protection strategies (Aleksandrova, 2019; Ulrichs and Slater, 2016).

In general, the evidence indicates that the benefits of integrating climate and disaster risk considerations into social protection design and implementation “can help prevent poor and vulnerable households from falling deeper into poverty, reduce their overall exposure to risk and contribute to long-term resilience to climate change” (Solórzano and Cárdenes, 2019:7). As an illustration, cash transfer programmes can support the income and food security of those affected by climate shocks (ILO, 2021), while cash transfers linked with agriculture and rural livelihood interventions, such as input subsidies (i.e., ‘cash’ plus), can further reduce risks and vulnerabilities by, for instance, improving savings or alleviating credit constraints, which could improve farm productivity (Tirivayi et al., 2016). The literature reviewed further suggests that the ability of social protection mechanisms to respond effectively to climate shocks depends, among other things, on “the inbuilt resilience of the system to deliver effectively, scale up efforts and reach the targeted beneficiaries in time, during crisis” (Bharadwaj et al., 2022:16). Indeed, social protection schemes that are “flexible and rapidly scalable to expand coverage to affected groups can also be effective measures to cushion populations against climate-related impacts” (Pal and Continguiaba, 2019:8; see also Ulrichs et al., 2019).

Social protection systems can not only support households at risk of climate-induced displacement, migration or relocation following either rapid- or slow-onset events by “helping recipients to (re)build their livelihoods” (Tenzing, 2020:6), but also increase resilience through public works programmes and cash transfers (Schwan and Yu, 2018). For instance, through the construction of assets and infrastructure, public works programmes can have benefits for adaptation (ibid.). Still, empirical evidence for the potential benefits of social protection programmes in addressing climate-induced migration, displacement and relocation remains scarce (ibid.), particularly in the context of slow-onset events where knowledge gaps remain (Chazalnoël and Randall, 2021; see also Costella et al., 2023). Solórzano and Cárdenes (2019:8) identified several entry points linking social protection with climate change activities, including “climate information and analysis, targeting, early warning, forecast-based financing and social behaviour change”.

A growing body of studies have highlighted the role of social protection in addressing gender equality (see, for, example Camilletti, 2020; Camilletti et al., 2021; Perera et al., 2022) and in contributing to gender-transformative change through explicit gender considerations in the design, implementation and monitoring of social protection programmes and systems (Alfers et al., 2021; Camilletti, 2020; Perezniето and Holmes, 2020; UNICEF, 2020a). These studies evidence not only the potential of cash transfers and public works programmes to recognize, reduce and redistribute unpaid care work responsibilities (Alfers et al., 2021; Chopra, 2014), but also the important effects of cash transfers on access to education (Alfers et al., 2021) – especially girls’ education (Camilletti, 2020) – and on reductions of violence against girls (Peterman et al., 2017) and women (Bastagli et al., 2016; Buller et al., 2018). Emerging evidence also suggests that cash transfers can reduce

⁷ One of the first endeavours to conceptualize the linkages between social protection, climate change adaptation and disaster risk recovery was the adaptive social protection framework (Davies et al., 2009).

the risk of exposure to harmful practices, but there is mixed evidence on the role that cash transfers have in addressing early and forced marriage (Camilletti, 2020). However, cash transfer programmes have shown promise in increasing adolescent girls' access to health services and in improving access to resources and decision-making for women (Camilletti, 2020).

As the climate crisis worsens, it is essential to adapt social protection programmes to better prepare for climate-related crises and their impacts on children and women. While it has been proposed that social protection instruments can support girls, boys and women to adapt to climate shocks, evidence for how gender, social protection and climate change intersect remains scarce. Some social protection programmes have begun to integrate gender-responsive approaches to address climate shocks, such as the Chars Livelihoods Programme (CLP) in northwestern Bangladesh as indicated in Box 3 (see also Perezniето and Holmes, 2020). However, there is a lack of rigorous research evidencing which design and implementation features can promote children's and women's engagement in social protection while supporting responses to the effects of climate change.

BOX 3

Gender-sensitive, adaptive social protection: the case of Bangladesh's Chars Livelihoods Programme

In operation from 2004 to 2010, Bangladesh's Chars Livelihoods Programme aimed "to secure and promote livelihood opportunities while at the same time strengthening the resilience of its target population to natural shocks and climate variability" (World Bank, 2013:1). According to Lowe et al. (2019:25), it achieved this by:

- using public works projects to build homesteads and construct flood-resistant sanitation facilities;
- providing asset transfers and livelihood-related training to help households diversify their income sources;
- delivering post-disaster relief and promoting the formation of support groups to cushion against shocks; and
- measuring climate resilience in its monitoring systems.

The results of these approaches include:

- protecting 95 per cent of recipients from losing their assets after a flood (Kenward et al., 2012, cited in Lowe et al., 2019:25); and
- helping women achieve greater resilience to disaster than men, as measured by: their knowledge of, preparedness for and response to disasters; their input to governance; and their participation in risk assessments related to disaster response (Barrett et al., 2014, cited in Lowe et al., 2019:25).

The positive impacts on women were attributed to their involvement in the programme design (World Bank et al., 2013, cited in Lowe et al., 2019), which led to adjustments to the programme "to ensure that women could benefit fully from the asset-transfer component, which builds participants' asset bases and diversifies their income source to reduce the impact of disrupted livelihoods in the event of natural hazards or climate shocks" (Lowe et al., 2019:25). Additionally, to minimize the risk of unintended consequences – such as "male relatives putting pressure on them about their use of the funds" (ibid.:21) – women participating in the programme were not only supported to make informed decisions about asset purchase in social development groups, but programme staff also accompanied their husbands to the market to buy their wife's chosen assets (ibid.).

4. Four ways gender-responsive age-sensitive social protection can address the climate crisis for children and women









In this working paper, the evidence on the ways social protection can contribute to mitigating climate change and its impacts on girls, boys and women has been categorized into four areas. These are:

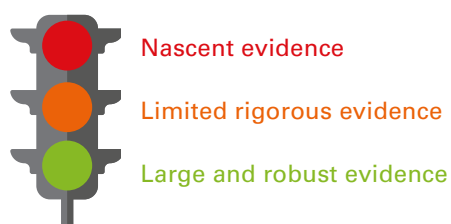
- 1. Reducing underlying risks** that make women and children especially vulnerable to climate stresses and shocks and strengthening their resilience before the crisis hits by, for instance, helping to increase their income, consumption and capacity to cope;
- 2. Supporting adaptation** by helping children and women at individual, household and community levels to adapt to more climate-resilient livelihoods to reduce future susceptibility to shocks by, for example, promoting the adoption of more productive livelihoods and climate-resilient investments to respond to shocks;
- 3. Strengthening disaster recovery** through broader disaster recovery efforts by supporting households and communities to 'build back better' through strategies that are inclusive of the gender-differentiated needs of children and women affected by climate shocks, such as contributing to rehabilitating community assets and infrastructure; and
- 4. Accelerating just transitions to green economies** to advance a gender-transformative agenda for the climate response by investing in the creation of decent jobs in strategic green sectors, including the care economy, and increasing support for individuals and households, including unpaid caregivers, affected by green policies on jobs and livelihoods.

These four categories have different degrees of robustness and quantity of evidence when considering the roles that social protection can play in addressing gendered climate impacts (see Figure 1). For instance, while the evidence that social protection mechanisms can support overall populations in reducing underlying risks and strengthening resilience may be strong, more evidence is needed from an age and gender perspective. Similarly, there is a limited but growing body of evidence on social protection's role in supporting adaptation, but the evidence that it can help girls, boys and women in particular is especially limited. Additionally, not all categories have the same level of evidence available on the roles that different types of social protection interventions can play. For example, there is substantial evidence on the importance of cash transfers in reducing underlying risks, but more evidence is needed on the role of public works programmes for supporting adaptation or strengthening disaster recovery. The varying levels of evidence highlight a critical need for research exploring the roles that different types of social protection instruments can play across the range of climate impacts on girls, boys and women. However, in presenting the literature, this section does not seek to overstate the role that social protection can contribute to minimizing the climate crisis.⁸ Instead, it sees social protection as an important instrument in a suite of tools to respond to the climate crisis (see also Tenzing, 2020).

⁸ For example, Haug and Wold (2017, cited in Tenzing, 2020) found that, although Malawi's 2005–2015 Farm Input Support Programme advanced food security by improving agricultural productivity, the 2015 flooding and 2016 drought showed that more effective measures are required to reduce long-term vulnerability to shocks and stresses.

Figure 1: Evidence on the role of gender-responsive age-sensitive social protection to address climate shocks

Categories of Evidence	State of Overall Evidence	State of Gender Evidence
Reducing underlying risks and strengthening resilience		
Supporting adaptation		
Strengthening disaster recovery		
Accelerating just transitions to green economies		



Note: Large and robust refers to the availability of rigorous evidence through impact evaluations and/or peer-reviewed studies and nascent refers to recently emerging areas, where it has been theorized what the potential impacts of social protection could be, but with limited impact evaluations or studies.

As gender perspectives need to be more strongly integrated when designing and implementing social protection, in reviewing the literature, this section is also informed by the Gender-Responsive Age-Sensitive Social Protection (GRASSP) programme's conceptual framework (UNICEF, 2020a), which proposes an approach to conceptualize the linkage between gender (including gender risks, vulnerabilities, discrimination and inequalities) and, for the purpose of this paper, enables acknowledgement of:

- **structural and individual drivers** (e.g., social and gender norms) and unequal gender roles leading to unequal gender outcomes;
- **gendered climate impacts**, such as reduced income security and increased care responsibilities; and
- **types of social protection instruments** that can address climate impacts to achieve gender equality in areas such as improved health and nutrition.

Social protection can play a role in reducing children and women’s underlying risks and strengthening their resilience before the crisis hits – *relatively large and robust evidence base overall but, increasingly, more evidence is needed from a gendered perspective*

Social protection’s role in strengthening resilience by helping households anticipate and cope with climate-related hazards is widely recognized in theory (see for example Aleksandrova, 2019; Béné et al., 2014; Costella et al., 2021; Davies et al., 2013, cited in Tenzing, 2020; Lowe et al., 2019; Solórzano and Cárdenes, 2019; Ulrichs and Slater, 2016). The evidence base further illustrates that social protection’s role in contributing to resilience is likely to be most impactful when programmes deliver objectives in a predictable and timely manner (Ulrichs and Slater, 2016).

Social protection systems can also absorb the impact of climate shocks and stresses so that those exposed to them can still meet their basic needs without suffering major setbacks (Ulrichs and Slater, 2016). With rapidly increasing climate risks and shocks, there is a pressing need for more research to evaluate social protection programmes (including those with or without explicit climate-related objectives) and generate evidence for social protection’s role in reducing vulnerability and increasing resilience, particularly in relation to slow-onset events where robust evidence is scarce (but see for example Aleksandrova, 2019; see also Costella et al., 2023).

A few studies have started to examine the effectiveness of social protection in addressing (a) those risks that make women and children especially vulnerable to climate stresses and shocks (see, for example, Jordan et al., 2021; Lowe et al., 2019; Perezniето and Holmes, 2020) and (b) gender equality outcomes in relation to education, health and nutrition, and empowerment. However, more evidence is needed that shows how social protection can not only address gendered climate risks, but also how – with specific climate objectives – it can adequately integrate gender considerations (Jordan et al., 2021).

The following sub-section presents evidence that cash transfers, public works programmes and cash plus programmes can play a role in addressing gendered impacts of climate shocks. However, feminist approaches to agroecology (an alternative to industrial agriculture that privileges small-scale farmers, mutual learning, Indigenous knowledge and local ecosystems) in parts of Africa, Asia and Latin America also provide insights for social protection in building resilience against climate shocks, including in supporting food security (Anderson, 2017, 2019b; UN Women, 2021). As indicated by Anderson (2019b), farmers often use agroecology to reduce dependency on expensive inputs (e.g., fertilizers, pesticides and purchased seeds), reduce costs and retain more income. Agroecology further supports women farmers, as it does not require significant investment or access to credit and encourages crop diversity suited for individual family needs.

Evidence from cash transfer programmes

The literature highlights cash transfers as “one of the areas with more scope for progress and further research into its potential in resilience-enhancing capacities” (Solórzano and Cárdenes, 2019:19; see also Bharadwaj et al., 2021; O’Brien et al., 2018; Ulrichs et al., 2019), particularly in the context of sudden-onset events. There is substantial evidence that cash transfers can play a role in addressing gendered impacts of climate shocks, particularly those caused by extreme events, by increasing individual and household consumption and spending capacity (Lowe et al., 2019). Thus, cash transfers can be used to invest in resources such as seeds, fertilizers or livestock (Perezniето and Holmes, 2020). This investment can also contribute to increasing women’s income security, their ability to save money to anticipate and deal with future shocks (Ulrichs and Slater, 2016), and their access to and control over resources. Moreover, cash transfers enable women and children to meet their basic needs, such as buying food, during times of shocks (Ulrichs and Slater, 2016; see also Bastagli et al., 2016).

There is also significant evidence that cash transfers can improve food security and nutrition (Bastagli et al., 2016; see also the Transfer Project⁹ for evidence on cash transfers and health, nutrition and well-being). This is particularly important for women, because without cash transfers they tend to absorb the shock themselves

9 For evidence on the impacts of cash transfers on increasing recipients’ food-related expenditures and improving their dietary diversity, see the Transfer Project <https://transfer.cpc.unc.edu/themes/health-nutrition-and-well-being/>

by reducing their own food consumption or selling personal assets (Quisumbing et al., 2017). For example, an evaluation of Kenya's Hunger Safety Net Programme (HSNP), an unconditional cash transfer programme delivered in the country's drought-prone region, indicated that the interventions implemented during a severe drought significantly reduced multidimensional poverty levels, especially among ultra-poor households (Song and Imai, 2019). The HSNP had the most impact in the food security domain, but it also helped participants to accumulate savings, to access healthcare, loans and credit, and to strengthen social networks (Song and Imai, 2019). Evidence also suggests that such programmes, which integrate climate-resilience objectives, can increase the contribution that social protection makes to responses to climate-related shocks and stressors. However, any climate-resilience objectives need to be aligned with the programme design and implementation strategy, including around institutional capacity, if objectives are to be delivered effectively (Ulrichs and Slater, 2016; see also Costella et al., 2023).

Research further indicates that women are often targeted for the receipt of cash transfers (Akresh et al., 2016), suggesting that cash transfers can positively affect gender equality outcomes including women's income and savings, girls' school enrolment and attendance, and the risk of sexual exploitation of girls through, for example, transactional sex (Camilletti, 2020; see also the Transfer Project¹⁰ for evidence on cash transfers and equitable gender relations). The evidence further suggests that from a gendered perspective, the design and implementation of social protection is critical.

Important gender considerations such as predictability, flexibility, value and duration of cash transfers (Camilletti, 2020; Solórzano and Cárdenes, 2019) are often neglected (Holmes, 2019; Holmes and Jones, 2013), which can undermine social protection's ability to support women through livelihood shocks. For instance, transfer predictability "enables households to plan expenditures and investments and overcome liquidity constraints" (Camilletti, 2020:26; see also Bastagli et al., 2016). Low-income households are then able to anticipate risk, which "increases their adaptive capacity in the face of future shocks" (Solórzano and Cárdenes, 2019:19). As further noted by Camilletti (2020:26), "benefits that are not predictable can lead to negative coping strategies that risk worsening gender inequalities in outcomes" (see also Peterman et al., 2017).

Moreover, constraints related to information, mobility, time and documentation have been found to bar women from accessing emergency cash transfers (Holmes, 2019). Research from Niger – where men play a leading role in household food security – suggests that "women's control over the money they received in response to seasonal climate shocks was lower than their control of money from cash transfer schemes with longer-term development objectives, which encouraged women to invest the money in shared savings groups" (Lowe et al 2019:24).

Evidence from public works programmes

Public works programmes have also been identified as social protection interventions effective for responding to sudden-onset events in particular, such as floods and droughts. For example, in Ethiopia, evidence indicates that climate risk adaptation and social protection were combined through the Productive Safety Net Programme (PSNP), which helped to improve the food caloric intake of participants of the programme by almost 30 per cent compared with non-beneficiary households (World Bank, 2010, cited in Ulrichs and Slater, 2016; see also Tenzing, 2020). Similarly, a study on public works programmes found that India's Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) provides a safety net to households during agricultural lean seasons and/or in the aftermath of unexpected shocks by bolstering consumption, savings, financial inclusion, health and human capital (Godfrey-Wood and Flower, 2017, cited in Tenzing, 2020; see also Ulrichs and Slater, 2016, and a forthcoming UNICEF discussion paper on child-sensitive shock-responsive social protection¹¹).

10 See: <https://transfer.cpc.unc.edu/themes/gender-and-gender-based-violence/>

11 For instance, the discussion paper presents findings from an impact assessment of Bangladesh's CLP four-month temporary expansion following floods in 2007 (citing Mascie-Taylor et al., 2010), which led to increase in household food consumption and on average increases in height (0.7 mm), weight (210 g) and mid-upper arm circumference (1.39 mm) of children under five years.

Evidence from cash plus programmes

Cash plus programmes, which “combine cash transfers with one or more types of complementary support” (Roelen et al., 2017:9), can also be beneficial for reducing vulnerability and strengthening resilience, particularly in relation to addressing food insecurity and nutrition. For example, an impact assessment of Ethiopia’s Integrated Nutrition-Social Cash Transfer (IN-SCT) – a pilot programme combining cash transfers with an integrated package of multisectoral nutrition services and activities to strengthen the quality of health services offered – found that the programme made several improvements (UNICEF et al., 2020). Specifically, during the 2015 lean season, exacerbated by drought, the IN-SCT led to improved access to the services provided, household dietary diversity and food security, and child schooling outcomes, relative to the PSNP cash transfers alone (UNICEF et al., 2020, cited in UNICEF, forthcoming). However, more evidence is needed in this area from a gendered perspective. For example, linking cash transfer programmes, violence prevention and response services, and interventions that prevent male backlash, could be more effective at further reducing the likelihood of intimate partner violence. However, more research is needed to identify how any linkage should be designed (see Camilletti, 2020; Camilletti et al., 2021).

Social protection can help children and women at individual, household and community levels adapt their livelihoods – growing body of evidence in general, but limited from a gendered perspective

Compared with the literature on resilience, there is a smaller but growing body of evidence on the role that social protection programmes (e.g., cash transfers) might play in supporting and strengthening individual, household and community adaptation to sudden-onset climate-related shocks (Ulrichs and Slater, 2016). For instance, empirical findings from Bangladesh, Ethiopia, Kenya and Niger indicate that social protection programmes that “have been specifically designed to reduce vulnerability to climate-induced food insecurity [...] can foster adaptation by providing a greater range of livelihood choices” (Solórzano and Cárdenes, 2019:27).

Much of the literature in this second category of evidence also calls for more “deliberate integration” (Tenzing, 2020:7) between social protection and climate change adaptation. Moreover, while programmes such as the World Bank’s Sahel Adaptive Social Protection Programme (SASPP)¹² have yet to be fully assessed for their impact on long-term adaptation, a few studies offer some insights. For instance, in their independent evaluation of the SASPP, Béné et al. (2018, cited in Tenzing, 2020:11) provided “initial reflections and empirical lessons”, including the programme’s potential to enable participants “to move beyond adopting only short-term coping strategies when faced with shocks, and to support them to engage in longer-term adaptive strategies”.

The following sub-section presents evidence that social protection in the form of cash transfer, cash plus and insurance programmes can promote adaptation. However, overall, more evidence is limited (Tenzing, 2020).

Evidence from cash transfer programmes

The current literature indicates with some promising examples how cash transfers could contribute to adaptation. In Brazil, for example, participants of Bolsa Família used the cash transfer programme to diversify their sources of income beyond options that are especially vulnerable to the impacts of shocks, thereby supporting adaptive capacity (Solórzano and Cárdenes, 2019). In their focus on social protection and water security, Lowe et al. (2019:8) indicated that asset transfers can help women and girls to adapt their livelihood strategies in places where climate change threatens the sustainability of existing ways of life. However, for such schemes to achieve their potential for women and girls, they need to better incorporate gender perspectives by, for instance, actively involving women and girls in the design and implementation of the scheme and by taking into account gender-specific time, resource, mobility and information constraints (ibid.:8).

A 2020 assessment of the gender sensitivity of the SASPP focused on programme design, implementation and systems, and coordination, capacity and actors (Perezniето and Holmes, 2020). In the area of programme design, for example, with regards to cash transfers (used in all six countries), the assessment found that

12 Launched in 2014, the World Bank’s five-year programme in the Sahel region aimed to strengthen or expand existing safety net systems in Burkina Faso, Chad, Mali, Mauritania, Niger and Senegal by building evidence, experience and learning on how to enable poor and vulnerable households to anticipate, absorb and recover from climatic shocks and stresses (World Bank, n.d.).

there had been “no systematic analysis of the effect of transfers on addressing gender vulnerabilities” (e.g., reducing adverse gendered coping strategies) (Perezniето and Holmes, 2020:19). But other aspects, including whether the transfer amount, timing and delivery mechanism were gender responsive, have not yet been systematically analysed. For example, the programme has not systematically explored whether there have been any consequences of the decision to transfer cash to women, such as any effect on gender-based violence within the household.

The issue of conditionalities – linking the receipt of non-contributory benefits to specific behaviours by participating households (Camilletti, 2020) – must also be raised here. As indicated by Camilletti (2020) in a literature review on social protection and its effects on gender equality, much criticism of conditionalities centres on them “being gender-discriminatory [by putting] additional (time) [constraints] on women, who are the ones [needed] to comply with the conditionalities” (Camilletti, 2020:28). For instance, in the context of climate change, conditionalities imposed by the programme that require participation in work or other activities could limit household livelihood strategies that are needed to support adaptation (Solórzano and Cárdenes, 2019): evidence from Mexico’s Prospera programme indicates that conditionalities requiring women to attend compulsory information sessions were interfering with their adaptation strategies (Solórzano, 2016, cited in Solórzano and Cárdenes, 2019).

Evidence from cash plus programmes

There is some evidence indicating that social protection programmes alone are unable to support vulnerable households in their adaptation strategies, particularly when the transfer amounts are small (Ulrichs et al., 2019), irregular or unpredictable (FAO and Red Cross Red Crescent Climate Centre, 2019). Therefore, it has been theorized that cash plus programmes that integrate social protection with other programmes (e.g., agricultural support) can not only support households to build their asset base, which can prevent them from falling into poverty (Tenzing, 2020), but can also “support adaptation through the promotion of income-generating activities and livelihood diversification” (Solórzano and Cárdenes, 2019:23).

Hossain and Rahman (2018, cited in Tenzing, 2020), for instance, suggested that cash and asset transfers, when combined with training, improve the adaptive capacity of the urban poor in Bangladesh by providing households with the capital to start new income-generating activities. While the livelihood support component of Ethiopia’s PSNP may be linked to increases in off-farm income from natural resource collection for participants (Solórzano and Cárdenes, 2019:27), the asset transfer component of ‘social protection plus’ schemes can ensure that poor farmers have alternative livelihood sources to depend on if droughts or floods damage their crop yields (Lowe et al., 2019).

The small cash-for-work components of the World Bank’s SASPP (used in five of the six countries) can help to build resilience and support adaptation (Perezniето and Holmes, 2020). In general, evidence suggests that public works and employment guarantee schemes that engage workers in the rebuilding of their communities after natural disasters associated with climate change can also play a significant role in adaptation (Pal and Continguiба, 2019). While women may be excluded because of the physical nature of the work required or as a result of their specific gendered life-cycle needs (e.g., women have additional care responsibilities for young children), evidence of explicit gender-responsive features encouraging women’s participation, such as crèche services, has been found in Burkina Faso and Mali (Perezniето and Holmes, 2020). In Burkina Faso, the mobile crèche programme is currently being evaluated, although there are indications that the programme is having a positive impact on women’s economic empowerment, including by increasing women’s access to work.

Evidence from insurance

Social protection may also contribute to managing risks (Costella et al., 2021). For example, microinsurance and weather-based crop insurance have been proposed as instruments linked to social protection interventions that can support responses to climate shocks by minimizing loss of livelihood caused by drought (Agrawal et al., 2019). Weather-based crop insurance that can “link trends and projections for climate change can guard against climate impacts and free up assets for investment in adaptive capacity” (Hansen et al., 2019, cited in Tenzing, 2020:6).

In rural contexts, it is further argued, insurance can not only overcome risk-related barriers to adoption of more profitable production technologies and practices by covering residual risks from severe shocks, but also improve the efficiency of shock-responsive interventions (Hansen et al., 2019 cited in Tenzing, 2020). For instance, Hansen et al. (2019, cited in Tenzing, 2020) found that insurance can help smallholder farmers overcome risk-related barriers to the adoption of more productive and climate-resilient agricultural theory and practices (see also Costella et al., 2021), which in turn facilitates planning and diversification into climate-resilient livelihoods to reduce future susceptibility to shocks (Tenzing, 2020:6).

Index-based insurance can also cover the residual risks from severe climate-related shocks (Hansen et al., 2019, cited in Tenzing, 2020:6). While more evidence is needed, there is growing interest in linking social protection to insurance (e.g., weather-indexed schemes) to help address the different risks from climate impacts that households face (Costella et al., 2021; Ulrichs et al., 2019).

There are, however, concerns about microinsurance and weather-based crop insurance, including whether insurance leads to maladaptation in the long term (see, for example, ActionAid UK, 2016). For example, Tenzing (2020) observes that, “insurance protects less well against slow-onset climate impacts and tends to overlook non-climatic dimensions of vulnerability”. Panda’s (2013, cited in Tenzing, 2020) study of crop insurance in two districts in Western Odisha, India indicated that small and marginal farmers rarely have crop insurance (e.g., due to lack of property rights to the land) or the awareness or information required to decide whether to get insurance. Access to insurance can also increase the likelihood that farmers shift from traditional to cash crop cultivation (monoculture), which, in turn, can increase the risk of total crop failure (Tenzing, 2020). Moreover, Akter’s review (2012, cited in Tenzing, 2020:7) of research on the prospects of weather microinsurance in Bangladesh summarized that insurance does not provide a safety net against environmental risks for the poor because of “low demand, poor coverage and lack of commercial viability” (ibid.).

As further indicated by Lowe et al. (2019:24), weather-indexed insurance schemes, for example, have often failed to reach women farmers because of their “lower levels of land ownership, literacy and access to financial institutions”. Moreover, in some cases, such insurance schemes do not cover the type of crops that tend to be farmed only by women, as reflected in a 2017 study on a drought insurance policy in Malawi for the 2015/16 agricultural season (Reeves, 2017). Thus, if these systems are not designed with a specific gender focus, their attempts to anticipate and reduce vulnerability can easily be undermined.

Some social protection schemes have recognized that there are gaps in gender-responsive strategies for climate risk management and have started to adopt more inclusive approaches. For example, Lowe et al. (2019) cited an example from the Oxfam and World Food Programme R4 Rural Resilience Initiative launched in 2011 to “respond to the challenges faced by food-insecure communities enduring increasingly frequent and intense climate disasters and other shocks” (Oxfam and WFP, 2017). The programme enabled participants to access weather-indexed crop insurance with their time and labour by engaging in public works programmes instead of paying with cash (Lowe et al., 2019:24). While such insurance reduces the impact on participants of crop or livestock losses, public works programmes further aim “to build infrastructural resilience to climate-related shocks” (ibid.:24), particularly shocks that would otherwise affect women disproportionately. As additional risk management measures, the R4 programme supports participants to join savings groups and provides training in financial literacy and livelihood diversification. Moreover, the programme targets women to support their registration in the insurance scheme, and some evaluations suggest that women have benefited the most from the scheme (ibid.:24).

Agroecological approaches can also help farmers, particularly women farmers, to improve their livelihoods and adapt to climate change (Anderson 2017; 2019). For example, with low start-up and production costs, climate-resilient techniques and stable yields, agroecology is more affordable and less risky for small-scale women farmers than agricultural approaches that require large amounts of land and ongoing costly investments. Agroecology encourages diversity of seeds and crops, adapted to different conditions, helping farmers to spread risk and reduce the risk of total crop failure following droughts or floods (see Anderson, 2019b:18). Technical solutions can include investing in building water-management infrastructure, protecting land from flooding and installing early warning systems (ibid.:21).

Social protection can make a critical contribution to a broader disaster recovery effort by supporting households and communities through gender-inclusive strategies – long-established practice, but limited rigorous evidence of gendered impacts and outcomes

There is limited but growing evidence that, by providing assistance directly to disaster-affected households, social protection systems and their affiliated programmes – such as cash transfers and public works programmes – can also contribute to the longer-term recovery from disasters by supporting the affected households to ‘build back better’.¹³ This is especially important for women and girls, considering their roles and responsibilities in the collection and use of natural resources, such as fuel and water (Costella et al., 2021). Hence, by putting in place systems that reduce threats to physical well-being or livelihood experienced by women and girls as a result of, for instance, droughts or floods, social protection programmes can improve resilience and the anticipatory capacity of individuals, households and communities (see also the pathway above on strengthening resilience) (Ulrichs and Slater, 2016).

The following sub-section presents evidence solely from public works programmes, and how they can contribute to broader disaster recovery efforts.

Evidence from public works programmes

The literature on social protection highlights that public works or cash-for-work programmes can also support – both before and after climate disasters occur – the creation of community assets and infrastructure to increase disaster preparedness (e.g., wells to improve water conservation) (Tenzing, 2020). For example, public works programmes can help to protect natural resources, ecosystems and community infrastructure from the impacts of sudden-onset events, such as floods. This can be achieved by, for instance, relocating buildings outside of flood zones or building new structures designed to resist strong winds (see World Bank, 2019:6). For example, the public works programme component of Ethiopia’s PSNP promotes natural resource management by creating assets that enhance watershed management (Costella et al., 2021). However, the evidence also indicates that there are difficulties in adequately scaling up such interventions.

By better protecting a community from a shock, these assets and infrastructure can improve adaptive capacity (see also pathway above on adapting livelihoods) and help to reduce a community’s vulnerability to climate change over the longer term (Solórzano and Cárdenes, 2019; Tenzing, 2020). However, Solórzano and Cárdenes (2019, citing Ludi et al., 2016; McCord, 2013) noted that little evidence exists on the actual impact of assets created for public works programmes aimed at either environmental rehabilitation or conservation of natural resources: “the actual benefits are widely assumed rather than empirically assessed” (McCord et al., 2016, cited in Solórzano and Cárdenes, 2019:23).

As noted by UN Women (2021) in the feminist plan for sustainability and social justice, these initiatives need to incorporate gender in their planning and implementation. For example, many public works programmes actively promote female participation through quotas, but participation in public works programmes designed for post-shock recovery may be affected by inadequate adjustment to accommodate the heightened time or mobility constraints that women face following extreme weather events: for instance, the time and energy required for water collection increases dramatically during drought, when standard water sources can no longer be relied upon (see earlier sub-section on care). In Somalia, for example, failure to consider women’s time constraints meant that places reserved for women in a Joint Resilience Initiative Cash for Works programme after an extreme drought in 2011 were not taken up. During the design phase, “community focus groups had overlooked time constraints as a consideration because women had not been consulted specifically” (Lawson-McDowall et al., 2013, cited in Lowe et al., 2019:25).

Evidence from India’s MGNREGA also suggests it is critical to address some of the implementation challenges of public works programmes from a gendered perspective. For instance, some studies on MGNREGA suggest that while, in theory, the public works programme may be designed in a care-sensitive manner – for example, by helping women work closer to their residence (Chopra, 2019) and setting up crèches for children at the

¹³ The concept of ‘building back better’ emphasizes “the recovery, rehabilitation and reconstruction phases after a disaster to increase the resilience of nations and communities through integrating disaster risk reduction measures into the restoration of physical infrastructure and societal systems, and into the revitalization of livelihoods, economies and the environment” (UNDRR, n.d.a).

workplace (Chopra, 2019; Zaidi et al., 2017a) – in practice, MGNREGA’s implementation of childcare has been patchy (Chopra, 2019). Findings from a qualitative study on women’s economic empowerment programming in India (Zaidi et al., 2017a, 2017b) found that women who could afford to often chose not to work or dropped out of MGNREGA because of a lack of childcare and infrastructure (see also Chopra, 2019). One impact of this lack of childcare at the workplace has been girls being taken out of school to undertake domestic chores and care for younger siblings, while their mothers worked under MGNREGA (Zaidi et al., 2017b). Alternatively, women may carry their children to their workplace, exposing them to hazardous conditions (Chopra, 2019; Zaidi et al., 2017b).

As discussed, the literature indicates that transfer size, targeting, quality of assets created and synergies with other interventions also influence the potential impact of social protection on resilience and on disaster preparedness (see also Solórzano and Cárdenes, 2019:24). For instance, if public works programmes are provided on a one-off or irregular basis, for which people will eventually cease to be eligible, the impact on both poverty and vulnerability is limited (Solórzano and Cárdenes, 2019).

Social protection can accelerate just transitions to green economies to advance a gender-transformative agenda – *only nascent evidence, including from a gendered perspective*

The most recent research – on the potential of social protection programmes to support the transition to green economies – falls into this final category. Here, social protection is seen as being at the heart of any just transition¹⁴ towards environmentally sustainable economies and societies for all (ILO, 2021). There are two potential roles social protection can play in this area.

First, according to Györi et al. (2021:2), social protection “can provide assistance to individuals and households that are adversely affected by climate action policies (e.g., carbon pricing, subsidy reforms) and the related structural changes towards a green economy”. For example, Györi et al. (2021:4) noted that, in terms of the negative impacts of subsidy reforms, “between 2011 and 2015, Morocco successfully phased out its subsidies on gasoline, diesel and fuel oil, while simultaneously expanding its conditional cash transfer programme, Tayssir, from 80,000 families in 2009 to 466,000 families in 2014.” However, more evidence is required on the effectiveness of social protection interventions to replace fuel subsidies or carbon taxes, and what would be required for these systems to be set up adequately.

Second, it has been theorized that social protection can mitigate climate change by addressing the side effects of green policies on jobs and livelihoods (ILO, 2021). In 2021, the ILO estimated that the transition to the green economy will create around 24 million jobs by 2030, especially in the renewables sector. However, 6 million jobs are expected to disappear due to mitigation policies such as phasing out coal, environmental bans or stricter control of carbon-intensive economic activities, leading in turn to income insecurity. Many more jobs will also be affected by the withdrawal of fossil fuel subsidies as countries move away from polluting energy sources. Social protection can, therefore, support those workers and their families affected by pro-climate policies to ensure they are protected against income and job losses in the shift towards more sustainable green economies (van der Ree, 2022). In this context, as suggested by Györi et al. (2021:4), social protection can “help to reduce the insecurity workers face, and compensate for the unequal impacts of green transformations on different segments of the population” (see also Costella et al., 2021).

Universal and basic income security, for example, can be guaranteed through unemployment insurance (formal economy) and temporary non-contributory cash transfers (informal economy) (Györi et al., 2021), as well as protection for workers by facilitating early retirement for older workers at risk of losing their jobs due to climate change mitigation policies (ILO, 2021). Moreover, employment guarantee schemes can create new opportunities for communities that can no longer sustain their livelihood activities due to environmental protection measures; cash and in-kind transfers can help families whose livelihoods have been disrupted by environmental bans and offset the impact of increased poverty on vulnerable families brought about by the removal of fossil fuel subsidies (see ILO, 2021). Social protection, combined with active labour market policies and skills development opportunities, can further facilitate the transition to greener economies through

14 “Just transition refers to a set of principles, processes and practices that produce plans, policies, investments and measures that are needed to conduct economies and societies to a zero-carbon, prosperous and socially equitable future” (ILO, 2021:4).

retraining and redeployment support for the green economy (ILO, 2021:15; see also Costella et al., 2021; Györi et al., 2021:4). There is, however, limited evidence for the role that such social protection measures can play in low- and middle-income countries.

To advance a gender-transformative agenda for the response to climate change, the creation of decent jobs in strategic green sectors, including agroecology, the care economy and emerging sectors such as renewable energy, should be a key priority (UN Women, 2021). As further illustrated by UN Women (2021), a care-led recovery would prioritize investments in the expansion of quality care services to create jobs and increase support for unpaid caregivers, including through paid family leave and universal child allowances, to address long-standing care deficits.¹⁵ Quality care services, as part of gender-responsive social protection, for a just transition to green economies will also support the recognition, reduction and redistribution of unpaid care and domestic work.

The following sub-section presents examples of potential evidence that social protection instruments in the form of environmental cash transfers, public works programmes and cash plus programmes are effective at addressing environmental objectives in a gender-responsive manner. However, more evidence overall is needed.

Evidence from environmental cash transfers

Payments for ecosystem services (PES) or environmental cash transfers are “programmes that provide cash transfers to the owners/users of environmental assets (e.g., forests or water resources) in exchange for their commitment to use them in a sustainable manner” (Györi et al., 2021:5). While the main objective of these programmes is environmental conservation, several payments for ecosystem services schemes have been designed to target low-income households, and others have explicit links to existing social protection programmes (Györi et al., 2021:5).

For instance, Brazil’s Bolsa Verde programme, which ran from 2011 to 2018, provided cash transfers to low-income families on the condition that they complied with a set of requirements related to sustainable land use (Györi et al., 2021). Another example is Paraguay’s Poverty, Reforestation, Energy and Climate Change (PROEZA) project, which combines cash transfers (via the social protection programme Tekoporã), asset transfers and environmental sustainability (Györi et al., 2021; Solórzano and Cárdenes, 2019). In their paper on social protection and climate change, Costella et al. (2021:21) illustrated how the PROEZA programme tops up the national cash transfer programme over five years, with payment conditional on the continued adoption of agroforestry practices.

Györi et al. (2021) also pointed to some promising empirical evidence for the positive environmental impacts of PES, including Mexico’s Pago por Servicios Ambientales programme, which increased management activities to protect land cover by 48 per cent and reduced the loss of tree cover by 29 per cent (citing Alix-Garcia et al., 2019) and Brazil’s Bolsa Verde programme, with estimates indicating that the programme led to a 44–53 per cent decrease in forest loss (citing Wong et al., 2019). However, challenges with PES include controlling whether the resources are really used sustainably by the recipients, and ensuring programme impacts last beyond the payments received by the users/owners of the environmental asset for its conservation.

15 See also Palladino and Gunn-Wright (2021) on the United States of America, centring investments in care in their Green New Deal, which is not covered in this paper due to its focus on a high-income country, but it can provide useful insights on investment in high-quality jobs in the care economy.

Evidence from public works programmes

Public works programmes, which already have the potential to contribute to individual income security and can support in creating assets and infrastructure (see above), could play a key role in the green economy (Costella et al., 2021; Györi et al., 2021), particularly those programmes that integrate climate or environmental objectives. For example, in promoting “smart land management and the restoration of ecosystems” (Györi et al., 2021:5), Ethiopia’s PSNP has been estimated to contribute to “carbon capturing of 5.7 tonnes of CO₂ per hectare per year at its project sites” (Györi et al., 2021:5). India’s MGNREGA has also contributed to carbon sequestration through promoting soil conservation, afforestation and drought-proofing projects (Costella et al., 2021). This potential can be better realized if public works programmes strengthen their design, improve the maintenance of assets created, intentionally address gender considerations and ensure integration with larger climate action plans (Jordan et al., 2021; Schwan and Yu, 2018; Solórzano & Cárdenes, 2019).

Evidence from cash plus programmes

Initial evidence suggests that social protection programmes, coupled with complementary measures, can also “incentivize climate-friendly behaviour among their [participants] (e.g., through environmental cash transfers) and, hence, directly contribute to the reduction and capturing of CO₂ emissions” (Györi et al., 2021:2; see also Costella et al., 2021). Györi et al. (2021) cited examples of recent studies from Colombia and Indonesia that illustrate the potential role of cash transfer programmes to reduce deforestation by 25–30 per cent, even when they do not have explicit objectives to address climate or environmental impacts.

5. Time for action: addressing gaps in the evidence

“As the infinite cost of climate change reaches irreversible highs, now is the time for bold collective action.” (United Nations, n.d.)

Well-designed and carefully implemented social protection programmes and systems can support both improvements in gender equality outcomes across the life course and responses to climate change risks, shocks and stresses. This review has indicated that social protection interventions can be highly complementary with climate resilience by, for example, providing resources to vulnerable people that support mitigating, anticipating and adapting to shocks, as well as addressing the root causes of vulnerability.

At the same time, the review has also highlighted that social protection’s role in responding to the climate crisis should not be overstated. Existing social protection systems still need to address challenges related to a limited linkage of climate responses to social protection policies, and of social protection approaches to climate policies, as well as around increasing coverage and adequate financing, among other things. Moreover, social protection systems need to be better designed to be sufficiently responsive to age and gender vulnerabilities to climate shocks and stressors. Besides, research that provides evidence for the ways that gender-responsive age-sensitive social protection and climate change can intersect is in its infancy.

Creating gender-responsive and age-sensitive social protection systems that are also responsive to climate-related risks is therefore critical and requires, among other things, evidence-building to inform policies on how to integrate social protection and climate objectives, with a view to maximizing gender-equitable outcomes in areas such as education, health, violence and economic empowerment. This brief literature review has identified several gaps in the evidence that can be addressed for social protection to better support improving children’s and women’s resilience against the effects of climate change.

The first gap relates to the four categories of evidence on gender, age, climate change and social protection discussed in Section 3: strengthening children and women’s resilience, supporting adaptation by helping children and women have more climate-resilient livelihoods, contributing to broader disaster recovery efforts inclusive of children’s and women’s gender-differentiated needs, and accelerating just transitions to green economies to advance a gender-transformative agenda. The evidence for the roles that social protection can play in addressing climate risks and shocks from a gendered and age perspective categorized into these four groups is of varying robustness and quality.

Specifically, more significant evidence was found for the roles that social protection can play in reducing underlying risks and strengthening resilience by improving the absorptive capacity of individuals and households through, for example, increasing incomes and improving health and consumption. While such evidence illustrates the importance of including responses to climate risks and shocks in the objectives of such social protection programmes, it is equally critical that implementation mechanisms enable delivery of these objectives to strengthen resilience. Less evidence was found for the roles that social protection can play in adaptation, even when climate objectives are integrated, and even less so in just transitions and their gender-transformative potential. These varying levels of evidence suggest a critical need for research on the intersection between gender, age, climate change and social protection, with a focus on adaptation.

With the second gap, linked to the above, more evidence – generated through systematic reviews or impact evaluations – is needed for the roles that social protection can play in mitigating the shorter- and longer-term implications of climate shocks and stresses on children and women, and in supporting individuals, households and communities to adapt to these short- and long-term climate risks. There is also need for more understanding of how social protection programmes can strengthen children’s and women’s coping and adaptive capacities within a context of underlying conditions that make them vulnerable to climate impacts.

Third, there is a need for more evidence on the roles that social protection can play in addressing risks resulting from slow-onset events for children and women. Although sudden-onset events have attracted more attention in the literature to date, slow-onset events also pose significant risks to individuals, households and communities, and livelihoods. Increasingly, social protection instruments have been used after disasters and in anticipation of climate change impacts, but their potential for building long-term resilience and supporting adaptation, including around slow-onset hazards, is less well understood. The specific knowledge gaps that need to be addressed include when interventions might be most effective, and how best to realize the gender-transformative potential of social protection in such contexts. Some promising studies have already been

conducted in this area (e.g., Aleksandrova, 2019; Anschell and Tran, 2020), but more evidence is needed that explicitly explores how social protection measures can build resilience against slow-onset events (Costella et al., 2023), with a focus on addressing gender inequalities.

Finally, different types of social protection could have different impacts on sudden- or slow-onset events. Most of the evidence reviewed for this working paper was drawn from cash transfer programmes, with some drawn from public works programmes, although more evidence is needed on the actual impacts and cost-effectiveness of assets created for public works programmes aimed at either environmental rehabilitation or conservation of natural resources for gender equality. More evidence is also needed that cash plus programmes can reduce vulnerability and strengthen resilience. We also need to better understand how to create linkage between cash and complementary programmes, particularly from a gendered and age perspective. Overall, additional research is needed to understand how different types of social protection can respond appropriately to the different types of climate hazards, and which social protection instruments are most effective in given contexts and their specific climate vulnerabilities.

It is important to ensure that research delivers policy and operational evidence on why, how and when to use social protection approaches in climate crises, and that gender-responsive and age-sensitive social protection systems are better linked to disaster risk management and early action to reduce gendered risks and vulnerabilities to climate shocks. This requires thinking differently about existing concepts and frameworks, investing in research and data that can identify promising practices for strengthening policies, strategies and programmes to respond to climate shocks, and building resilience pre-crisis.

Following this review, suggestions for gathering additional evidence include:

- **Support the development of research to generate high-quality**, rigorous and robust evidence to address gaps in knowledge on gendered aspects of climate impacts in relation to life-course risks (e.g., early childhood and old age). Particular emphasis should be placed on the role of the design (e.g., targeting) and implementation of other social protection programmes, such as cash plus programmes and public works programmes, to reduce gendered risks and vulnerabilities to sudden- and slow-onset events, and to build resilience, adaptive capacity and anticipatory action over the long term.
- **Collect and analyse sex- and age-disaggregated** data assessing how climate shocks and stressors may affect women, girls, men and boys differently, across the life course, to inform decision-making on adaptation of social protection to respond rapidly (see also previous suggestion).
- **Conduct assessments¹⁶ of gendered risks and vulnerabilities** pre-crisis to identify and understand structural and individual drivers of inequality, such as barriers to participating in existing social protection programmes, and integrating these into disaster risk management plans and strategies.
- **Develop monitoring and evaluation systems** that use both qualitative and quantitative indicators and integrate gender- and age-specific programme objectives. These should also capture unintended consequences, such as the increased risk of exposure to violence.
- **Explore how existing social protection programmes** can be sustained during climate crises, and the implications of specific and dynamic features of climate shocks and stresses (i.e., extreme events, such as droughts, and slow-onset events, such as sea-level rise) for how social protection programmes are designed and delivered.

16 Gender-responsive indicators used in such assessments include: gender differences in access to and control over resources; information on gender division of paid and unpaid care work; access to services, such as healthcare, by women, men, girls and boys; and experience of violence against women and children. Data can be found in nationally representative household surveys or collected through primary research (see also Perezniето and Holmes, 2020).

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