

SOCIAL PROTECTION & JOBS

DISCUSSION PAPER

No. 2405 | MAY 2024

Social Protection and Jobs for Climate Change Challenges: Current Practice and Future Opportunities

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Abstract: This paper reviews the current and potential roles of Social Protection and Jobs (SPJ) policies and mechanisms in supporting address the challenges related to climate change. Given its central role in reducing poverty and vulnerability and in helping people cope with various shocks, SPJ can play a greater instrumental role in both adaptation and mitigation efforts, managing the impacts of climate change as well as the impacts of decarbonization. However, at present, its potential remains underrecognized and SPJ policies and programming seldom integrate climate consideration in a deliberate and strategic manner. To realize this untapped opportunity, this note aims to concisely present SPJ's role in the climate agenda. It first presents an overview of the potential ways in which SPJ policies and programs can strategically support climate goals, while explaining key issues and concepts. It then reviews existing evidence for and examples of current practice on SPJ and climate change and highlights policy and operational considerations, including key takeaways that SPJ practitioners can use to drive the climate and SPJ agenda forward.

JEL codes: JEL I38, Q54

Keywords: Social Protection, Jobs, Labor, Economic Inclusion, Climate Change, Adaptation, Mitigation, Green Transition, Just Transition, Loss and damage

Acknowledgements: This paper was written by Cecilia Costella, Elham Shabahat, Nian Sadiq, and Yuko Okamura. The authors gratefully acknowledge comments and input from Christian Bodewig, Sarah Coll-Black, Ulrike Lehr, Jia Li, Jose Romero, Alexander Jaeger, Jamele Rigolini, Edmundo Murrugarra, Penny Williams, and Colin Andrews.

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1. Introduction

Climate change will have profound socioeconomic impacts, increasing poverty and inequality and eroding living standards across the globe. At the same time, mitigating and adapting to climate change requires an enormous transformation of productive systems, infrastructure, and technology—a true green transition—creating opportunities and significant challenges for jobs, labor markets, and people’s livelihoods. Overall, the social and economic transformation necessary to respond to climate change will require bold, but also equitable and inclusive, policies that recognize the centrality of people in this transformation.

Social protection and jobs (SPJ) policies have the potential to stand at the center of policies that can support this transition, given their central role in reducing poverty and vulnerability and their potential strategic value in helping people adapt to and mitigate climate change. Historically, the world’s poorest countries and people have contributed the least to global emissions but are more exposed and vulnerable to climate impacts and have fewer resources to protect themselves and recover from such impacts. Social protection and jobs policies can play an important role in both managing the impacts of climate change and the impact of decarbonization. There is an untapped opportunity for climate programming to learn from SPJ policies, while SPJ measures should themselves become more climate-informed. However, despite the strategic potential of SPJ policies as a response to climate change at present they remain underrecognized and underutilized in national climate policies and programs and seldom include climate considerations.

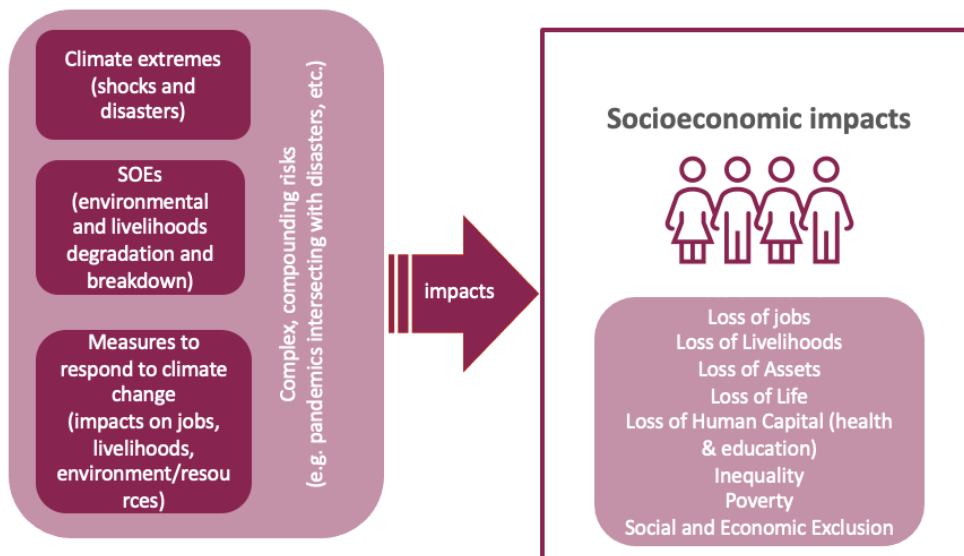
For SPJ policy makers and practitioners, this brief aims to concisely present SPJ’s role in the climate agenda. It presents an overview of the potential ways in which SPJ policies and programs can strategically support climate goals, while explaining key issues and concepts. It then reviews existing evidence for and examples of current practice on SPJ and climate change and highlights policy and operational considerations, including key takeaways that SPJ practitioners can use to drive the climate and SPJ agenda forward. The brief could also be useful for climate change practitioners who seek to strengthen the interlinkages between social protection and climate change.

2. Climate change and SPJ: key issues and concepts

Climate change presents a paradigm shift for development. Climate change and poverty together bring a vast and complex array of challenges, where people affected by the nexus between them face entrenched poverty, vulnerability to shocks and disasters, and uncertain job prospects. Social protection systems play a vital role in helping people manage the impacts of climate change.

This section presents key issues in climate change and SPJ while explaining the definitions of basic concepts and terminologies. The issues are organized by: (1) socioeconomic impacts arising from climate change from extreme events versus slow-onset events (SOEs); (2) people’s central role in climate change adaptation, mitigation, and green transition efforts; and (3) SPJ’s critical roles in helping people and society manage climate change impacts while ensuring equity, resilience, and opportunity.

Climate change brings about vast challenges for poverty and living standards around the world while also generating momentum for the transformation of social and economic systems.



The most frequently discussed and best understood socioeconomic impacts of climate change arise from the rise in extreme events and how they lead to shocks and disasters. Extreme events such as storms, droughts, and heatwaves will increase in frequency and intensity with global warming, along with compound events such as concurrent heatwaves and droughts (Intergovernmental Panel on Climate Change (IPCC) 2022). These will have direct impacts (such as damage to infrastructure and assets and decreased overall health) and indirect impacts (such as higher food prices, declining food security, reduced opportunities for economic activities and basic services, and in some situations, loss of livelihoods). For example, higher temperatures and heatwaves have driven mortality and morbidity up and affected labor productivity, with impacts that differ by age, gender, and socioeconomic factors. Droughts and floods have negative impacts on agricultural production, and have contributed to reduced food availability, affecting food security and the livelihoods of millions, particularly the poor in parts of Africa, Asia and South and Central America (IPCC 2022). Poor and vulnerable households can cope with extreme events by reducing consumption, selling assets, and further risking their livelihoods (Agrawal et al. 2019). Climate-related shocks affect poor people disproportionately because they have fewer resources and typically receive less support from family and social institutions to cope and adapt (Hallegatte 2021).

However, gradual changes in the climate system (SOEs) can also lead to far-reaching negative socioeconomic consequences by impacting livelihoods and ecosystem productivity. In climate discourse, SOEs¹ include gradual changes in climate-related systems such as sea level and average temperatures and precipitation, among others. These changes can lead to job and livelihood losses (due to the depletion of natural resources and people’s need to migrate), negative impacts on health, nutrition, and other human development outcomes, and compounding impacts with other risk drivers (such as water scarcity leading to conflict) (IPCC 2022). For example, people in coastal cities are affected by interacting and compounding

¹ In climate change literature, SOEs refer to the risks and impacts associated with increasing mean temperatures, desertification, decreasing precipitation, loss of biodiversity, land and forest degradation, glacial retreat and related impacts, ocean acidification, sea-level rise, and salinization, among others (IPCC 2022). This is different from the term “slow-onset disasters,” which is more commonly used in disaster risk management literature and often refers to shocks such as droughts that evolve more slowly than rapid-onset shocks such as a cyclone (Costella et al. 2023a).

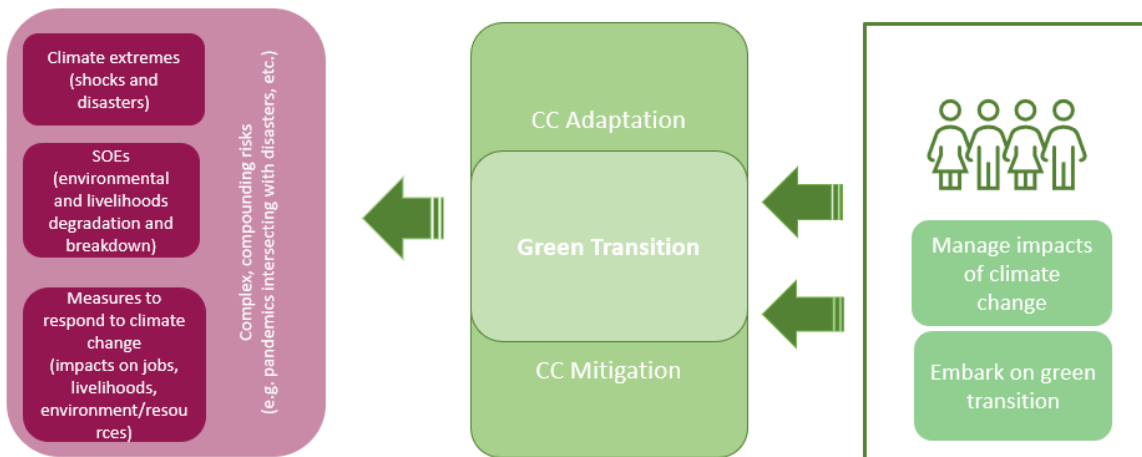
risks, particularly people in informal settlements or on land prone to subsidence. They are facing both SOEs such as sea-level rise, extreme events like severe storms, and socioeconomic challenges such as structural inequality (IPCC 2022). Gradual events disproportionately affect the poor and socially excluded and undermine poverty reduction efforts.

In addition, the need to address climate change through measures across a range of areas, including regulatory, fiscal, and technological reforms (such as shifting from fossil fuels to renewable energy) generates both momentum for transformation as well as potential externalities for societies. Responding to the enormous challenge of climate change requires a vast transition toward a net-zero, sustainable, and resilient economy. With the right policies in place, this transition will create opportunities, such as millions of new jobs in the renewable energy sector, environmental services, and the circular economy, among others (ILO 2018; Rigolini 2021).

However, the same policies that are necessary for addressing climate change—the green transition—can have negative consequences for some people and societies. For instance, policy responses such as those intended to reduce carbon emissions (elimination of fuel subsidies, closure of certain industries) can negatively impact incomes, jobs, and livelihoods. Climate adaptation policies can leave people and communities behind, increasing vulnerabilities of certain groups and leading to social exclusion. For example, relying on hard infrastructural protection (such as sea walls) against sea-level rise can increase the exposure of low-lying coastal settlements to climate risks in the long term. Certain stranded assets and vulnerable communities cannot afford to adapt or move and will therefore require support. Thus, the green transition entails overhauling productive, technological, and financial systems while at the same time ensuring that people and nature are resilient, can manage risks, and thrive in a significantly changed context.

Finally, the risks arising from both climate change and the green transition intersect with each other and with others, creating complex, compound risks. For instance, sea-level rise leads to larger impacts when coastal storms occur, in part because of a larger storm surge. Interlinkages between natural and human systems can increase exposure, as is the case when institutional and legal systems are not in place to prevent deforestation, which in turn not only increases the risk of landslide but also contributes to accelerating change. Climate risks can lead to or interact with existing conflicts, thereby exacerbating vulnerability. A combination of responses is required, including crosscutting risk management systems that can empower and support people in navigating this complex landscape.

People are at the center of climate change adaptation, mitigation, and transition efforts, both because managing the impacts of climate hazards on people is crucial and because the green transition cannot succeed if it is not global and inclusive.



Box 1. Climate Policy: Definitions and Concepts

Climate change adaptation:

The IPCC defines adaptation as the process of adjustment to actual or expected climate and its effects to moderate harm or exploit beneficial opportunities.

Climate change mitigation:

According to the IPCC, mitigation is defined as human interventions to reduce emissions or enhance the sinks of greenhouse gases.

Slow-onset events:

Refers to the risks and impacts associated with increasing mean temperatures, desertification, decreasing precipitation, loss of biodiversity, land and forest degradation, glacial retreat and related impacts, ocean acidification, sea-level rise, and salinization (IPCC 2022).

Hazard, vulnerability, and exposure:

Hazard is understood as the potential occurrence of a physical event or trend that may cause loss or damages (adapted from IPCC 2022). **Exposure** refers to the presence of people, livelihoods, species or ecosystems, environmental functions and resources, infrastructure, or economic, social, or cultural assets in places and settings that could be adversely affected. **Vulnerability** is understood as the propensity or predisposition to be adversely affected, including sensitivity or susceptibility to harm and lack of capacity to cope and adapt (IPCC 2022). While SPJ practitioners typically use the terms “vulnerability” in relation to poverty, it is important to recognize “vulnerability” in relation to climate change.

Green transitions:

A shift toward economically sustainable growth and an economy that is not based on fossil fuels and overconsumption of natural resources. The concept of green transition contains societal actions that seek to mitigate climate change (by reducing greenhouse gas concentration) and adapt to it while acknowledging ecological and environmental degradation caused by other factors, such as overconsumption.

Just transition:

The term is originally rooted in the US labor movement in the 1970s, when unionized atomic workers threatened by disarmament during the Cold War argued for a just transition, that is, a superfund for workers to compensate for job losses as a result of increased environmental regulation. Today, the concept has been reinterpreted within environmental and climate justice communities and incorporated in the Paris Agreement. It refers to a set of principles, processes, and practices that aim to ensure that people, workers, places, sectors, countries, or regions are not left behind in the transition from a high-carbon to a low-carbon economy. It stresses the need for targeted and proactive measures from governments, agencies, and authorities to minimize negative impacts of economy-wide transitions while giving particular consideration to those disproportionately affected.

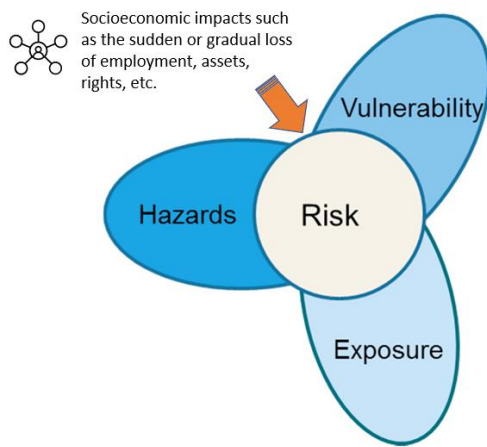
Loss and damage:

This general term in United Nations climate negotiations refers to economic and non-economic loss and damage associated with climate change, including damage to critical infrastructure, loss of coastal heritage sites due to rising sea levels, and the loss of homes and lives during extreme floods. Establishing liability and compensation for loss and damage has been a long-standing goal for vulnerable and developing countries. The United Nations Framework Convention on Climate Change established the Warsaw International Mechanism for Loss and Damage, which focuses on research and dialogue rather than liability or compensation. At COP28, countries agreed to create a Loss and Damage Fund (hosted by the World Bank on an interim basis), which will provide a new channel for multilateral finance to assist countries in responding to loss and damage associated with the adverse effects of climate change.

Source: IPCC 2022; CSIS and CIF 2020; ILO 2018; [UNFCCC 2023](#); [WRI 2024](#).

Managing the impacts of climate change

Managing the impacts of climate change on people is essential for development and for global stability and requires a focus on climate vulnerability and exposure. Climate change increases both physical hazards, such as extreme events and SOEs, and socioeconomic hazards, such as measures and policies that can affect people negatively. However, even as hazards increase because of climate change, their actual impact is determined by how vulnerable and exposed people are to climate change (Box 1). For



hazards to cause damage, there needs to be something or someone affected by that hazard. Exposure refers to people or assets that are in a location that can be affected by a hazard. The extent of the impact (or whether there is impact) is also determined by how vulnerable those people or assets are to the hazard, that is, whether people or assets are susceptible to the hazard and whether they can cope with it.

Overall, people in poverty experience higher levels of climate risk because of increased vulnerability (which could be due to a lack of money, informal jobs, or a lack of resources to evacuate before a flood). They also face greater exposure because they are more likely to live in rural areas or in

informal settlements in urban areas that are more affected than other areas. Moreover, vulnerability and exposure differ across regions and people, sometimes even within the same household. For instance, women or people with a disability might find it more difficult to swim to safety because they lack the physical ability to swim or never learned how to swim. When women lack land ownership or control of decision-making, it can make it difficult for them to adapt or move as a response to climate-related hazards. Factors such as poverty, uneven power structures, structural issues such as institutions and governance, and others (including ethnicity and racial discrimination, gender, age, and disability) can lead to higher vulnerability, although vulnerability also varies depending on the hazard. For example, aging populations face higher risks during extreme heatwaves, which can be compounded by isolation, lack of access to healthcare and social safety nets, and deficiencies in infrastructure (IPCC 2022). It is therefore important to understand who is vulnerable and the factors that contribute to vulnerability in order to plan interventions and responses to support them. Reduced poverty is also related but not the same as decreased vulnerability. There can be poverty reduction with limited benefits regarding vulnerability, while there are populations that are not among the poorest but are also vulnerable.

Accordingly, addressing factors that increase vulnerability, including structural inequalities and poverty, is critical to managing the impacts of climate change. Poverty, low levels of education, and malnutrition all amplify risks by increasing people's vulnerability. The degradation of ecosystems due to deforestation or to global warming and policies that aim to manage climate change, such as shutting down high carbon-emitting industries, can also increase communities' exposure and vulnerability. As part of climate-resilient development,² social protection can play an important role in climate adaptation through its substantial institutional infrastructure capable of reaching hundreds of millions of vulnerable households and its overlap in objectives with climate adaptation goals ([Agrawal et al. 2019](#)). Better alignment between social protection and climate policies is important to address climate risks, as both seek to support the well-being of the poor and reduce vulnerability. Therefore, managing the impacts of climate change through policies that reduce climate vulnerability, such as social protection and jobs, will be critical.

Embarking on the green transition

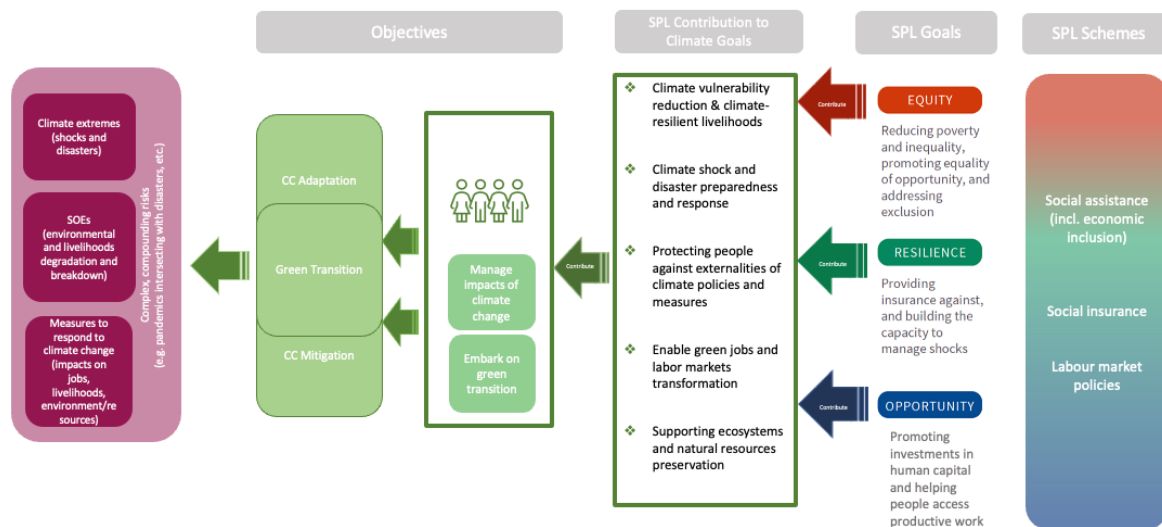
To embrace the necessary transition to a net-zero economy, people across the globe will need to be empowered to adjust their jobs and livelihoods as well as motivated to accept the necessary and sometimes painful reforms that the transition will require. The transition to a green economy will generate opportunities for people in the form of jobs and livelihoods in greener, less climate-dependent sectors. Such opportunities could be also limited compared to the number of people affected, given that the "new" economy may be less labor intensive. Moreover, in the rural sector, including in agriculture, forestry, and fisheries, livelihoods will need to be adapted to new climate realities, necessitating innovative approaches such as climate-smart agriculture. To take advantage of such opportunities, people will require knowledge, skills, and the willingness to accept these reforms.

Moreover, equitable policies that support people in the transition are not only necessary from a poverty reduction perspective but are also necessary for the green transition to happen in the first place (Rigolini 2021). If not properly managed, the transition will leave some people behind, because they can no longer move to new jobs or because adaptation and mitigation measures affect them disproportionately. Offsetting their losses is key to avoid deepening poverty and ensure the acceptability of such reforms.

² Climate-resilient development is a framework used by the IPCC to guide responses to climate impacts and risks in an integrated way, recognizing the importance of human health and well-being, equity, and justice (adapted from Costella et al. 2023b).

While the overall magnitude of job losses from a green transition can often be relatively small (Botta 2018), these losses may affect well-organized sectors (such as unionized or public sector workers) with the capacity to derail reforms, such as the closure of coal mines or coal power plants (Rigolini 2021). Necessary carbon pricing reforms can be made more socially acceptable and hence more effective if accompanied by social policies (Schaffitzel et al. 2020). Social protection and jobs policies can cushion welfare losses during the transition period and help workers and households adjust to new economic contexts. However, given the temporary nature of some social protection measures, in the context of a just transition, the role of SPJ must be innovative, targeted, adaptive, and properly designed and also take into account political economy considerations.

Through a focus on equity, resilience, and opportunity, SPJ systems can help people manage the impacts of climate change and embark on the necessary green reforms, ultimately contributing to climate change adaptation, mitigation, and the green transition.



SPJ policies have three key goals, and pursuing these goals in a climate-aware manner can help achieve climate goals and outcomes. The main goals of SPJ policies are:

- Equity: Reducing poverty and inequality, promoting equality of opportunity, and addressing exclusion.
- Resilience: Providing insurance against and building the capacity to manage shocks.
- Opportunity: Promoting investments in human capital and helping men and women access productive work, such as through active labor market policies (ALMPs).

Investing in equity, resilience, and opportunity is consistent with climate policy. These three goals align SPJ explicitly with climate change objectives that can ultimately support adaptation, mitigation, and the green transition. The first goal of SPJ—the equity goal—is crucial in a context of climate change. Poverty cannot be ended if climate change and its effects on poor people are not accounted for and managed, and the climate cannot be stabilized without parallel efforts to end poverty (Hallegatte et al. 2016). In addition to its crucial function of providing income and resources directly, SPJ systems can also reduce vulnerability and address inequality and exclusion by enhancing human capital and livelihoods, which can

also be key to increasing climate resilience. Moreover, SPJ efforts that combine equity goals with environmental objectives can also help preserve and improve natural resources while improving people's livelihoods and contributing to climate change mitigation.

The second goal of SPJ—the resilience goal—is key to managing the impacts of climate change, both by reducing climate disaster risk in advance and helping people cope when these shocks occur. The third goal of SPJ—the opportunity goal—aligns with the need to promote investments in human capital and help men and women access productive work. This can support climate-resilient livelihoods and jobs and labor market transformations in the context of the green transition.

Hence, SPJ's three goals and its policy and programmatic schemes align closely with climate-related objectives and goals in the following key areas (adapted from Costella et al. 2023a).

- Reducing climate vulnerability and supporting climate-resilient livelihoods
- Responding to climate shocks and enhancing disaster preparedness
- Protecting people against the unintended impacts of climate change policies and measures
- Enabling green jobs and labor market transformation
- Supporting ecosystems and natural resource preservation

While there is some overlap, these five areas capture the different dimensions of SPJ's contribution to climate goals, as evident in the existing literature. The next section reviews examples and evidence of SPJ's contribution to these five climate goals, both presenting an overview of the pathways through which SPJ contributes to them as well as briefly summarizing current gaps in the evidence and knowledge around each of them. Section 4 presents policy and programmatic gaps and implications across the entire climate change and social protection and jobs agenda.

3. In practice: examples and evidence of SPJ contribution to climate goals

A growing base of literature and evidence recognizes SPJ's important contribution to achieving people-centered climate goals. International and national actors in SPJ and climate sectors have been increasingly exploring this agenda over the last decade. Over that period, the World Bank has increasingly argued for the role of SPJ systems in building climate resilience, including in its 2012 and 2022 SPJ Strategies (World Bank 2013; Kuriakose et al. 2013; World Bank 2022), through the adaptive social protection approach (Bowen et al. 2020), in its Poverty and Shared Prosperity Report 2020, its stress testing tool (World Bank 2021a), and in the role of SPJ to support climate change mitigation and adaptation (Rigolini 2021). At the same time, other international agencies and actors have become increasingly interested in SPJ systems as a tool for managing climate change (Davies et al. 2008; Malerba 2021; Costella et al. 2021). This has included exploring the role of SPJ for more effective disaster response and early and anticipatory action against climate shocks (FAO and RCCC 2019; REAP 2021; Costella et al. 2017; Gentilini 2022); as a response to SOEs (Aleksandrova and Costella 2021); as a climate adaptation and resilience tool (Tenzing 2020; Ulrichs et al. 2019); and to support the just transition (AFD and ILO 2019a).

The remainder of this note explores the functions of and evidence for SPJ in relation to climate change, closely following and adapting evidence from a few recent and forthcoming publications on social protection and climate change (Costella et al. 2023a; Bagolle et al. 2023; Rigolini 2021; AFD 2023; and Costella and McCord 2023).

Reducing climate vulnerability and supporting climate-resilient livelihoods

The most basic goal of SPJ—to prevent people from falling into (deeper) poverty, destitution, and social exclusion—is key for reducing vulnerability and increasing resilience. SPJ schemes reduce poverty by addressing households’ income-related risks across the life cycle (for example, destitution, unemployment, and old age). Regular and predictable social assistance benefits help poor and marginalized people get out of poverty, increase food consumption, and improve health and education outcomes (Bastagli et al. 2019). Both conditional and unconditional support to households through cash transfers, labor market interventions, and economic inclusion approaches have been shown to lead to better health and education outcomes (Godfrey and Flower 2017). These outcomes all help people be more resilient to many challenges, including those arising from climate change (Agrawal et al. 2020; Aleksandrova 2019).

In a context of increasing climate risks, poverty reduction and increasing human capital is critical, as it can help households both manage the impacts of shocks and disasters as well as engage in adaptation options that help them deal with SOEs and the green transition. Hence, SPJ schemes (even those that do not have specific climate goals) are already helping cushion people from the impacts of climate change to some extent. For example:

- ⇒ Several social assistance programs have demonstrated its impact in increasing the resilience of households facing increasingly severe and frequent climate-induced shocks. Beneficiaries of Mexico’s conditional cash transfer program who resided in disaster-prone areas exhibited higher propensity to save cash transfers from the program compared to people that were not included in the program, in anticipation of potential disasters (Solórzano 2016). Cross-country analyses from African countries also confirmed higher **savings** rates from program beneficiaries, supporting resilience (Beegle et al. 2018): beneficiary households were more likely to save by 4–20 percentage points compared to non-beneficiaries. In Niger, small unconditional cash transfers which were provided to rural households (facing increasingly severe and frequent climate-induced droughts) over two years improved household welfare and food security, particularly where households faced high exposure to climatic shocks (Premand and Stoeffler, [2020](#); Bossuroy et al. [2022](#)).
- ⇒ A meta-review of 28 studies across 12 countries in Africa, Asia, Latin America, and the Pacific showed that social assistance and social insurance interventions (cash transfers, public works, insurance, and health care) eased financial barriers to **migration** as a climate change de-risk mechanism, helped address drivers that lead to maladaptive migration, and helped maintain livelihoods in out-migration areas (Silchenko and Murray 2023). Migration can be a key adaptation strategy, especially for areas that do not have the potential to offer sustainable livelihoods under a changed climate landscape.

If strategically focused on addressing climate vulnerability, SPJ interventions that are designed to support the adoption of more resilient livelihoods can contribute to longer-term adaptation to climate change. In particular, **economic inclusion and active labor market** approaches can support households and individuals in adopting diversified, productive, and more resilient income-generating activities. Economic inclusion programs that support skills building and entrepreneurship can lessen dependency on natural resources-based livelihoods while providing access to financial services (for example, small savings and loans groups), business capital, or market links can help households set up income-generating activities.

- ⇒ In Nicaragua, beneficiaries who received these economic inclusion elements in the form of productive investment grants and training evidenced full protection against drought shocks two

years after the end of the interventions, compared to those who received only cash (Marcours et al. 2012). More recent practice from Niger demonstrated that additional productive inclusion measures alongside basic cash transfers strongly improved households' economic diversification, resulting in greater welfare and food security (Bossuroy et al. 2022). More than 20,000 rural young people have been equipped with skills and start-up capital needed to identify economic opportunities, diversify activities, and build resilience.

- ⇒ In Bangladesh, **asset transfers** to urban extreme-poor households in two informal settlements in Dhaka City, combined with skills training support and preventive measures, such as free health care and building savings through community-based organizations, were able to transform the lives of extreme-poor families, helping them manage existing as well as future vulnerability to hazards (Hossain and Rahman 2018).

While SPJ has been extensively shown to reduce poverty and increase human capital, the extent to which it can reduce climate vulnerability and support households' adaptation is not yet well understood, partly due to limited strategic integration of climate considerations in its programming (Costella et al. 2023a). For instance, while Ethiopia's Productivity Safety Net Programme (PSNP) has had a positive impact on food insecurity (thus helping households cope during times of extreme drought) (Ulrichs et al. 2019), evaluations of earlier stages of the program showed that the program's positive effects did not completely shield recipients against the impact of severe drought (Béné et al. 2013). In addition, social protection programs that include climate considerations tend to be focused on large-scale shock response to disasters, and longer-term, gradual impacts of climate change are often missed, potentially reducing the effectiveness of interventions (Aleksandrova and Costella 2021). For example, Malawi's Farm Input Support Programme improved food security and reduced the need for short-term humanitarian assistance, but the impacts of consecutive flooding and drought in 2015 and 2016 made it clear that long-term vulnerability and resilience to future adverse impacts of climate change is necessary (Haug and Wold 2017). Thus, integrating climate change considerations into SPJ interventions—even "regular" interventions that focus on poverty reduction—can lead to policy and program options that are better suited to achieve climate-related outcomes.

Responding to climate shocks and enhancing disaster preparedness

SPJ schemes that transfer income to people affected by shocks—either through planned or ad hoc response—can help households cope with the immediate impacts of climate-related shocks. While chronic and transitory poverty are factors of vulnerability, climate change poses extra hazards where social protection can serve a cushioning role. Social protection has been used in many countries to respond to large economic, natural, financial, and health shocks; most notably in response to the socioeconomic impacts of the COVID-19 pandemic and the 2022 energy crisis. Indeed, many examples exist of social protection and jobs interventions responding to climate-related shocks. However, while social protection can serve a role, in cases of extreme shock, appropriate disaster and humanitarian responses are necessary.

- ⇒ In Somalia, emergency cash transfers were provided to 338,000 households because of persistent climate-induced drought, while 160,000 households were already receiving emergency cash transfers because of a climate-mediated locust outbreak (BAXNAANO 2020).
- ⇒ In the Caribbean, several countries have employed social protection measures in response to major hurricanes. In the aftermath of Hurricane Maria, Dominica leveraged existing social protection systems to temporarily increase the value of cash transfers to existing beneficiaries of

the program, and temporarily expanded to cover non-enrolled households severely affected by the hurricane (Barca et al. [2019](#)).

- ⇒ In Fiji, after tropical cyclone Winston, top-up cash transfers to households were effective one month after the disaster once access to markets were restored, allowing targeted families to recover faster from disaster impacts as compared to households that did not receive the additional assistance (Mansur et al. [2017](#)).

National SPJ systems offer a strong platform to prepare for and respond to climate shocks earlier and with more cost-effectiveness. The faster support reaches people affected by an extreme event, the less likely they are to resort to negative coping strategies. Nevertheless, even when governments have early warning and contingency financing systems, delayed action can still cause losses of life and livelihood (Hillier and Dempsey 2012; Parker et al. 2011).

As the international aid system struggles to keep pace with humanitarian challenges exacerbated by climate change, there is a need to shift to more sustainably funded, longer-term strategies that use nationally owned systems for delivery and action (BRACED 2017; IFRC 2019). Given that humanitarian assistance at scale currently operates outside national systems, the regular administrative and delivery systems of social protection programs can be leveraged during emergencies, with the potential for a quicker, more predictable, more efficient, and therefore more effective response, even in anticipation of a shock (REAP 2021; Daron et al. 2020). In these contexts, coordination between humanitarian and social protection programs can enable more timely support, especially when contingency funding and a clear plan of action are in place before the emergency (Costella et al. 2017). Although most anticipatory transfers so far have occurred in the context of humanitarian transfers, some SPJ interventions, including some in the Sahel ASP program, are exploring ways to serve as a platform for such transfers in the future (Daron et al. 2020). For example:

- ⇒ While the instances are still limited, there are examples of government's social assistance responses incorporating index-based triggers, particularly for SOEs. Uganda's cash-for-work program uses satellite data and the Normalized Difference Vegetation Anomaly Index. Niger's cash transfer program uses precipitation and evapotranspiration data which correlates with agricultural yield, enabling payments to be disbursed to households before experiencing impacts from droughts (Bowen et al. 2020; World Bank 2022). The program has been expanded to provide early assistance to drought-affected households.
- ⇒ In Bangladesh, an anticipatory cash transfer in advance of floods that was mostly spent on food and water resulted in beneficiary households being 36 percent less likely to go a day without eating during the flood and reported significantly higher child and adult food consumption and well-being three months after the shock (Pople et al. 2021).

Finally, SPJ interventions that focus on building community assets can act as an instrument to reduce physical climate risks, particularly through public works that focus on supporting disaster risk management and reduction. For example, afforestation, riverbed restoration, and soil conservation interventions can support flood control and water retention, thereby supporting risk reduction from climate-induced extreme events and helping manage slow-onset climate change.

- ⇒ India's Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) program focuses, among others, on works that improve water management, including water canals, water tanks used to capture and store rainwater, check dams to slow the flow of water and direct it to productive use, and spring renovations that enhance water-holding capacity at key discharge points. In all, 79 percent of participants in a study of the program in the Kangra District of Himachal

Pradesh reported improved water availability for irrigation, drinking, domestic use, or livestock, which prove particularly important during the pre-monsoon months when water shortages are often acute (Fischer 2020).

While SPJ's role in responding to shocks and disasters is expanding, and a large body of practice exists, there are gaps. Most programs are not designed exclusively to address climate-related shocks, although some have used innovative ways to connect with early warning systems and climate data. The extent to which disaster response through SPJ can more cost-effectively shield populations from both short- and longer-term impacts of climate shocks is not yet well known. Some experiences, such as in Fiji and the Philippines, show that SPJ programs in the aftermath of cyclones helped restore consumption and improve long-term income opportunities, including through self-employment (AFD and ILO 2019b; Mansur et al. 2017). However, systematic or rigorous large-scale impact reviews do not seem to exist, in part because the nature of responding to disasters makes it difficult to carry out such studies. In addition, gaps remain in the coverage and adaptability of SPJ systems across the world, especially administrative and delivery systems, which might hinder their ability to respond to shocks in a timely and effective manner. These limitations are further explored in Section 4.

Protecting people against externalities of climate change policies and measures

Climate change will have negative impacts on incomes and livelihoods through effects on economies, markets, and fiscal policies, including those aimed at curbing emissions. Mitigation measures to limit warming, including both technological measures, such as shifting to renewable energy, and stronger building regulations and fiscal measures, such as fossil fuel subsidy removal and carbon pricing, could also lead to income shocks for vast numbers of the population, as they increase prices of basic goods and services. SPJ measures can play a role in cushioning against the impacts of decarbonization measures, thus enhancing their feasibility and acceptability and managing their perceived risks, including potential political and social costs. SPJ interventions can ensure that the affected populations are compensated for or supported to deal with possible negative impacts of green transition measures.

- ⇒ Cash transfers play a critical role in mitigating the impact of price increases from energy subsidy reforms, thereby supporting governments to achieve desired policy outcomes which are both fiscally and environmentally sustainable. A recent global stocktaking shows that the scope of and approach for such compensatory cash transfers significantly varied depending on the contexts and existing infrastructure. While most countries implemented these compensatory cash transfer measures as a new program, some expanded existing cash transfer programs, building upon their social protection delivery systems (for instance, Mauritania, Morocco, and Ukraine). The Dominican Republic leveraged the earlier Solidaridad conditional cash transfers platform to provide additional top-up benefits to existing poor beneficiary households and to enroll additional households who would be adversely affected by price increases from energy subsidy reform (vertical and horizontal expansion). In addition, a dedicated scheme was set up to compensate transportation sector operators/workers (Mukherjee et al. 2023). Similarly, Egypt used the Takaful and Karama program to provide transfers to poor and otherwise socioeconomically vulnerable households during the gradual removal of electricity and fuel subsidy reforms.

SPJ can also protect, compensate, or support households and communities affected by closing industries or limiting environmentally harmful productive activities (for example, bans on logging or closing season for fishing).

- ⇒ China provided job training and placement services for nearly one million workers who lost jobs in state-owned forest enterprises, while also providing rice subsidies and cash transfers to informal workers affected by the ban (AFD and ILO 2019a; Györi et al. 2021).
- ⇒ In the Philippines, the Barangay (Village) Bay Environmental Cash-for-Work program was used to provide compensation to crew members of commercial fishing vessels who lost income during a closed season (ban on fishing) in December 2014. The closed season was enacted due to concerns about declining fish stocks. As compensation for their income loss, they received 75 percent of the regional minimum wage in exchange for performing activities such as waste sorting, the cleanup of beaches, coastal areas, canals, and public markets, and similar activities (Altenburg et al. 2017).

While SPJ programs have great potential to support people negatively affected by measures aimed at addressing climate change, there appears to be limited examples and evidence so far, partly because mitigation policies are only recently starting to be put in place (Costella et al. 2023a). However, many experiences exist around the world where social assistance interventions have been used to compensate for and reduce the impacts of energy subsidy reforms, even when the impetus for the reforms has not been climate-related (Yemtsov and Moubarak [2018](#); McCord and Costella 2023; Mukherjee et al. 2023). Moreover, promising models have shown that reinvesting the funds obtained from climate-oriented subsidy reforms and carbon taxes into social protection would have both poverty reduction benefits and cost savings (Feng et al. 2018). In Latin America and the Caribbean, two such studies find that recycling revenues from a carbon tax back to households in the form of cash transfers would have a progressive income effect (Vogt-Schlib et al. [2019](#)) and that social protection could help enhance the social acceptability of such reforms (Schaffitzel et al. [2019](#)). Similarly, in British Columbia, a study ([Beck et al. 2015](#)) found that carbon tax appears to be highly progressive, with the negative impact of carbon tax on lower-income households being smaller than that on higher-income households. Nevertheless, practical examples from (non-climate-related) fiscal reforms show that they require strong social protection identification and registration systems to adequately include all possible beneficiaries (Bladon et al. 2022; McCord and Costella 2023).

Enabling green jobs and labor market transformation

The transition to net-zero carbon emissions will have major implications for individuals and households around the world, especially through changes in labor markets. Studies show that large-scale changes to coal industries in China, the United States, and other coal-producing countries have already led to the loss of over two million coal jobs (Ruppert Bulmer et al. 2022; World Bank [2018](#)). Other climate-sensitive sectors such as agriculture could also lose jobs either from direct policy changes or from the consequences of changing economic structures and labor demand. At the same time, new jobs will be created in old and new sectors which might require not only different but also higher-level skills. These jobs might be in different locations or concentrated in new areas. There are two key issues to consider: (1) enable climate mitigation investment by ensuring that a deficient labor supply is not an obstacle; and (2) ensure that populations adversely affected by mitigation policies are protected. SPJ can play a role in ensuring the right skills and workers are available in the economy, such as ensuring there are enough workers able to install solar panels. The second issue—addressing unemployment and other negative shocks that stem from climate mitigation policies—is also at the core of SPJ policies.

Complementary policies are needed to ensure that labor market conditions are appropriate to make the green transition feasible. The transition to net-zero carbon emissions will restructure portions of the economy as the scope of green technologies and activities expands and activities associated with

significant emissions and pollution are phased out. To ensure a green transition, governments can use an array of policy instruments, from regulatory reforms to subsidies and carbon taxes. This structural transformation will render some sectors, jobs, and skill obsolete, will allow workers transfer to new jobs while applying their existing or additional skills, and will create new jobs with distinct skill sets in emerging sectors. There are two policy areas that will emerge as critical: (i) policies to ready the market for increased demand for certain types of labor; and (ii) policies to smooth drops in labor demand for activities being phased out.

Increases in labor demand will occur in green economic activities and their associated sectors, which will create a need to ensure that the availability of suitable labor is not a constraint to the green transition. Some economic activities related both to reducing emissions and to sequestering carbon will expand, such as electricity generation and storage (moving from coal and other fossil fuels to renewable sources), transport (moving from internal combustion vehicles to modes of transport that reduce petrol demand), and heavy manufacturing, to name a few. This means new types of jobs emerging in clean energy sectors, such as renewable energy installation, operation, manufacturing, and decommissioning. Beyond the creation of wage jobs by expanding sectors, entire value chains will quickly develop that will require entrepreneurs and own-account workers to fill market niches created, such as value chains in clean energy and climate-resilient products and processes in construction, manufacturing, and selected services.

Social protection and jobs interventions are essential policy tools to address job losses and ultimately prevent poverty and maintain living standards. ALMPs can assist with skills development, job matching (through search training and reskilling), and labor mobility (travel grants), among others. Another consideration is supporting worker mobility, especially if green technologies are located in industry-sparse areas. Finally, programs will need to prepare entrepreneurs to move into newly created niches in the green market through business training, mentorships, and in some instances matching grants, guaranteed credit, and access to finance.

Social protection and jobs interventions can help both stabilize incomes and serve as a springboard to new livelihoods and jobs. For instance, economic inclusion programs can support the poor (who are typically the beneficiaries of cash transfer programs) in developing skills and market opportunities in green sectors. Public works programs focused on skills can also support the poorest through income as well as skills, but can also serve to support the non-poor, especially youth.

- ⇒ A public works program that was piloted with youth participants in several cities in Africa aimed to create high-quality geographic data that could be used to inform future urban planning, disaster risk reduction, and emergency response efforts (World Bank 2021b). The program also aimed to serve as a short-term safety net for the youth participants, and for some, to serve as a stepping stone for employment in digital, greener, sectors (World Bank 2021b).
- ⇒ The Jobs Umbrella Multi-donor Trust Fund in 2022–23 ([Divanbeigi et al. 2023](#)) focused on the measurement of labor mobility and migration and their links to climate change. With better measurement and more data availability, projects can be better informed at the design stage and better prepared to target the related issues from a climate and a jobs perspective. Under the same grant, in Ghana, a methodological experiment was designed, implementing a household survey in an urban-rural catchment area as well as additional data collection on formal and informal enterprises in this area to gauge labor demand. Knowledge of labor histories, domestic and international migration, job readiness, and aspirations is a relevant prerequisite to tailor labor policies supporting climate change.

There are several areas of the economy where labor demand will decline and require a reallocation of workers and smoothing transitions between jobs. Some sectors will become increasingly obsolete or crowded out by cleaner options, such as fossil fuel-based electricity generation and coal mining, to name the most prominent. These effects could be concentrated in geographical areas, such as mining communities. Some impacts will be concentrated in sectors, such as falling demand in activities within petrol stations and transport of fossil fuels. The declines in economic activity and labor demand will affect salaried workers, self-employed workers, and entire value chains.

Box 2. Just Transition in Coal Mining

While some countries have moved away from coal mining (such as Germany moving away from hard coal) due to mining costs or toward a cleaner energy mix (such as the Czech Republic), other countries have also ramped up production for their own consumption or export. Globally, over two million coal mining jobs have been lost in the last decade (Ruppert Bulmer et al. 2022). The total number of workers globally in coal and lignite mining is currently 4.7 million, accounting for a very small and declining share of total employment, even within the major coal-producing countries. Coal mining, however, is mostly concentrated in geographical areas (for instance, the Ruhr area in Germany, Silesia in Poland, Mpumalanga in South Africa, and Kalimantan in Indonesia). For mining communities, the loss of mining and miners' incomes can cause severe local impacts.

There are five main channels through which public policies and programs can facilitate workers' transition (Ruppert Bulmer et al. 2022): (i) temporary income support; (ii) increasing workers' capacity to qualify for jobs in new sectors; (iii) connecting workers to potential employers; (iv) stimulating private sector labor demand and local or regional business development; and (v) ensuring the business environment and labor regulations are conducive to private sector investment and job creation.

Addressing these declines in labor demand will require a combination of passive policies and ALMPs.

Passive policies aim to address income disruption, including unemployment insurance, and other social insurance benefits provide income security for formal workers when factories close (ILO 2015a). Contributory and non-contributory pensions support those who cannot find jobs, including through early retirement measures. Active policies are those that help displaced workers regain employment. Chief among these interventions will be active labor market programs, which are key in reskilling the workforce, both to upskill workers to become greener in their own occupations and to facilitate the transition to new (potentially green) jobs (Cunningham and Schmillen 2020; Ruppert et al. 2021; Rigolini 2021).

While there has been a significant amount of work done in ALMPs, an important factor in the context of the green transition is having the right assessment tools, such as those for profiling workers, assessing labor market demand for skills, and understanding worker preferences, among others.³ Combining social insurance interventions with ALMP policies is an important way to achieve these goals, such as when unemployment benefits and reskilling are offered in combination.

If supported by an enabling mix of policies, the net impacts of the green transition can be positive globally but the effects will differ based on the country's development level. Studies show that the net employment effect under net-zero scenarios or scenarios compatible with global warming of 1.5°C is

³ Examples can be found in the World Bank's recent work on the coal mining regions of Poland (see ###) where specialized surveys and other assessment instruments were deployed to understand at-risk workers, their profiles and preferences, and the jobs opportunities available to them.

positive, meaning job losses in carbon intensive sectors will be outweighed by jobs gains in low-carbon sectors by 2050.⁴ In lower-income countries, policy needs will need to focus on preparing the labor market for the forthcoming labor demand in green sectors. In middle-income countries, policies to address the declining labor demand in non-green activities will be more relevant, along with skills development to prepare the labor force for new activities.

While SPJ interventions have a long history of supporting employment-related goals, they have not yet done so at scale for climate change purposes (Costella et al. 2023a). This is partly because governments and companies are not yet implementing the sweeping measures necessary to transition to net-zero emissions. As the green transition accelerates, SPJ will have to become more engaged and active in supporting it.

Supporting ecosystems and natural resources preservation

Ecosystem and natural resource degradation have implications for food security and poverty, as well as for managing climate change and for overall development. Ecosystem degradation can exacerbate climate change by reducing the extent to which ecosystems help capture emissions and provide other planetary functions (IPCC 2022). At the same time, environmental, ecological, and natural resources must be protected because of their crucial role for all life on Earth and for people's livelihoods. Nature provides benefits to people in the form of food, energy, and medicine and helps regulate basic Earth functions such as air, water, soil, and climate (IPBES 2019). Areas of the world projected to experience significant negative effects from global changes in climate, biodiversity, and ecosystem functions are also home to large concentrations of Indigenous Peoples and many of the world's poorest communities (IPBES 2019).

SPJ can play a complementary but important role in helping preserve ecosystems and natural resources, as well as in reducing emissions that help mitigate climate change. SPJ schemes that combine poverty reduction efforts with environmental or climate objectives can boost incomes while simultaneously contributing to nature-based adaptation, disaster risk reduction, and climate change mitigation (Solórzano and Cárdenes 2019; Costella et al. 2023a). Multiple SPJ interventions lend themselves to supporting these roles, either directly (through public works, community-based interventions, or payment for ecosystems services⁵ (PES) approaches that support the sustainable use and management of natural resources) or indirectly (through interventions that promote sustainable consumption and behaviors and the adoption of sustainable technological solutions).

Green public works programs can enhance ecosystem services, increase sustainable agricultural productivity, and support disaster risk reduction. For example, afforestation, riverbed restoration, and soil conservation interventions can support flood control and water retention, thereby supporting risk reduction from climate-induced extreme events and help manage slow-onset climate change. Furthermore, public works that help build low-carbon infrastructure (for example, energy efficient

⁴ At the EU level, many simulations have been carried out for the impact assessment of the EU climate packages (Fragkos et al. 2021; Vrontisi et al. 2020). Globally, Pai et al. (2021) found an overall increase of 7.7 million in energy jobs by 2050 with an integrated assessment model and country-specific labor productivity data.

⁵ PES encompasses a variety of results-based payment arrangements where the beneficiaries or users of an ecosystem service make payments to those whose lands provide these services (for example, individuals, households, communities, and private entities) in the form of subsidies or market payments. In doing so, PES provides a positive economic incentive to maintain or enhance ecosystem service delivery.

retrofitting) facilitate the development of green skills; focus on enhancement of carbon stocks (such as peatlands, forests, and mangroves) can play a role in low-carbon development or even carbon sequestration.

- ⇒ In Fiji, the Jobs for Nature 2.0 program is expected to create jobs for Fijians in rural areas across the country and reduce environmental degradation through public works projects that engage unemployed and underemployed individuals, particularly women and youth, in undertaking green initiatives, such as nature restoration work.
- ⇒ In Ethiopia, the PSNP increased tree cover by 3.8 percent on average over 15 years in the participating districts of the Ethiopian highlands (Hirvonen et al. 2022). It is estimated that the annual negative CO₂ emissions from this increased tree cover are equivalent to 1.5 percent of the emissions reduction pledged by 2030 in Ethiopia's Nationally Determined Contribution for the Paris Agreement.
- ⇒ In Cambodia, the Jobs Multi-Donor Trust Fund-supported grant ([Divanbeigi et al. 2023](#)) contributed to the Cambodia Sustainable Landscape and Ecotourism Project's development objective, which is to improve the management of protected areas while promoting ecotourism job opportunities and non-timber forest product value chains in the Cardamom Mountains and Tonle Sap landscape. Job creation and opportunities for increased income were catalytic in the implementation of the project.

SPJ approaches that integrate features from environmental approaches such as PES can provide incentives to achieve environmental and social objectives at the same time. These approaches can have positive environmental impacts, boost incomes and food security, improve livelihoods, social capital, and community involvement in natural resources management, and support migration (Costella et al. 2023a). However, balancing environmental and social objectives is the main challenge in using these schemes as part of the social protection toolbox for climate change.

- ⇒ Brazil's Bolsa Floresta program offers a monthly payment to low-income households if they commit to zero deforestation and enroll their children in school (Hallegatte et al. 2016). The PES involved a mix of direct cash transfers and community-based investments in income-generating activities and social infrastructures (Viana and Salviati 2018).

SPJ interventions can also play more indirect roles in supporting ecosystem and environmental management and reducing greenhouse gas emissions, including incentivizing adoption of sustainable behaviors or technological options.

- ⇒ The Indonesia national anti-poverty program that transfers cash to poor households reduced deforestation, with an estimated reduction in tree cover loss of 30 percent in linked villages, primarily due to consumption smoothing, whereby cash substitutes for deforestation, and consumption substitution whereby market-purchased goods substitute for deforestation-sourced goods (Ferraro and Simorangkir 2020).

As part of economic inclusion, skills training and alternative livelihood support can help reduce pressure on natural resources, especially by providing alternative sources of income for natural resource dependent communities.

- ⇒ In Burundi, an economic inclusion program focuses on the restoration of degraded landscapes and improvement of land management practices through land certification, landscape restoration, erosion control, and improved practices of crop production. Communities are

mobilized to conduct restoration works, and participants are trained in improved crop production practices, among other program components of (World Bank, forthcoming).

While in practice SPJ interventions do not often have natural resource preservation as their main objective, there are some promising examples, such as the recently started Jobs for Nature 2.0 program in Fiji and the Climate-Smart Expanded public works program in Malawi. Moreover, long-standing programs such as the PSNP in Ethiopia and MGNREGA in India show that when appropriately designed, these interventions can play an important role in supporting climate change adaptation and mitigation and core social protection objectives such as poverty reduction and job creation. However, SPJ interventions in this area require a high degree of technical coordination with relevant sectors, and hence cross-fertilization and learning are essential to advance this type of work.

4. Policy and operational considerations: gaps and way forward

This section reviews key policy and operational considerations in the climate change and social protection agenda. It primarily intends to highlight key gaps and takeaways for SPJ policymakers and practitioners who are moving to operationalize this agenda. It also notes that much work remains to be done at country level to operationalize this agenda, and as such, it provides only light guidance and recommendations aimed at supporting nascent steps in integrating climate change into SPJ.

Policy and institutional coordination/integration

At policy level, SPJ systems will need to be recognized as part of coordinated policy solutions to climate change. Currently, climate policies rarely include SPJ as a policy solution to climate challenges. For example, Nationally Determined Contributions often fail to consider human vulnerability to climate change or do not explicitly work toward ensuring that the poorest and most vulnerable are not left behind. Climate change policies also rarely include the potential of SPJ instruments and systems to address climate risks, despite evidence that one of the most crucial ways to reduce vulnerability to climate change is by reducing poverty and deprivation—an area where these interventions have proven positive impact. The value of SPJ interventions as a climate tool will need to be recognized by policy makers at the highest level of climate, from policy makers and ministers of finance to planning and climate change authorities.

In climate change adaptation, the value of SPJ interventions lies in engaging with poor and vulnerable populations, in developing safety net programs, and in advancing institutional development. However, integrating climate change objectives into social protection will require coordination and interventions from various sectors such as infrastructure, disaster risk management, agriculture, and access to finance, to name a few. SPJ policies can play a crucial role in formulating and contributing to national adaptation plans, particularly as they relate to poor and vulnerable populations who are most at risk from climate change.

At the same time, social protection policies also need to align with climate plans by mainstreaming climate considerations and objectives. Until now, most SPJ policies, plans, and programs do not strategically integrate climate considerations or align with climate policies in countries. As climate change gains importance in a country's domestic agenda and at international level, SPJ policymakers will need to start developing more strategic as well as more concrete climate-related objectives into their long-term plans and policies. Moreover, these objectives and goals will have to be tracked and measured in a way that can help build a stronger evidence base for SPJ and make a stronger case for its role in climate change.

In the same vein, coordination across ministries and sectors will be crucial both in policy reform and in operationalizing a climate change and social protection agenda. For instance, the operationalization of shock-responsive and adaptive social protection systems is already shifting governments' attention from a singular focus on national social protection systems to a wider focus inclusive of the policies, organizations, and programs involved in disaster risk management and climate change adaptation (Bowen et al. 2020). In a context of climate change, the different potential roles of social protection will require cross-government engagement and partnerships, not only with agencies focused on disaster response but also with those focused on energy and industries transitions, green fiscal reforms, and adaptation to a range of climate hazards. This complex institutional coordination will necessitate strong political leadership, sometimes supported by a reconceptualization of mandates to align to new challenges and of existing coordination strategies, their incentives, and processes (Costella and McCord 2023; Costella et al. 2021). Coordination needs to be underpinned by indicators and metrics that create incentives to coordinate, both through financial incentives and integrated policy and program objectives (Costella et al. 2021).

Key takeaways for SPJ policymakers and practitioners include:

- From a policy perspective, climate change offers an opening for a discussion about poverty reduction and becomes a crucial part of the argument in making the strong case for SPJ.
- Policy dialogue with relevant sectors and ministries is key, including at the highest level of policy making, such as central planning bodies and ministers. It should involve the oversight ministries (for example, finance and planning) as well as the line ministries (for example, the Ministry of Environment (including agriculture, forestry, and fisheries), disaster risk management agencies, and meteorological institutes) which could be relevant for the implementation of climate and social protection policies.
- Key to continuing to make the case for SPJ is the development of a more solid and quantifiable understanding about the extent to which poverty and climate change are linked and can lead to more demand for SPJ from national constituencies.
- More rigorous evidence on the contribution of SPJ interventions to climate policy objectives, including through empirical and modeling studies, can further support policy dialogue and integration.
- Climate change might necessitate rethinking institutional mandates for SPJ to accommodate expanded need and partnerships across an extended range of actors and sectors. These issues require direct investment in efforts that seek to develop national strategic visions for the sector in a context of climate change and to enhance joint planning and operationalization. Incentives for coordination might need to be included in new projects and investments. Practitioners have recommended focusing on the design, delivery, and directions of SPJ programs to better integrate climate policy ([Holmemo et al. 2023](#)).

Scope and design of programs

While SPJ interventions might already be contributing to managing climate change, most do not yet integrate climate strategically or programmatically. When climate considerations are not adequately incorporated, social protection fails to achieve its full potential contribution to climate goals; more importantly, it could result in increased vulnerability that exacerbates potential climate change impacts. There is anecdotal evidence that programs that do not fully consider climate variability and the future

implications of climate change could put current beneficiaries under strain and limit their scope to undertake climate change adaptation options (Mersha and van Laerhoven 2018; Costella et al. 2023a).

Given the challenges climate change is increasingly presenting for people and governments around the world, the design and scope of SPJ programs will need to consider ways in which they need to be adapted to new risks and demands. At present the coverage of social protection systems is insufficient to meet the current level of vulnerability of risks, and with exacerbated risks from climate change, a full suite of SPJ programs is needed. The COVID-19 pandemic demonstrated the need for the full range of labor market and social protection instruments to address different vulnerabilities and risks, and a similar approach is needed to address climate risk and vulnerability, as discussed in Sections 2 and 3. Designing interventions that incorporate climate objectives requires considering various aspects of SPJ systems and program design.

First, one of the most crucial and straightforward ways to reduce vulnerability to climate change is to reduce poverty and deprivation in general. Social protection provision should therefore be expanded, including *expanding coverage* (the number of people covered) and *expanding the breadth of benefits* they have access to.

Expanding coverage of poverty-targeted benefits as well as social insurance and jobs interventions can prevent poverty while also providing options for better livelihoods. However, expanding coverage is difficult and SPJ champions and practitioners sometimes have a hard time convincing the public and reaching political consensus on the value of these benefits, especially during times of relative stability. Climate change offers an opening for a discussion about new risks and vulnerabilities and becomes a crucial part of the argument in making the case for social protection.

Expanding the breadth of service provision is important because climate change has impacts across many areas of people's life, affecting income, health, and their relationship with ecosystems. Thus, addressing vulnerability across these multiple areas requires a systemic approach. Stronger, more comprehensive systems with a mix of social insurance, social assistance, and labor market programs better position a country to manage climate change impacts. In addition, social protection benefits alone will not be sufficient to help people adapt to climate change. Combining social protection benefits with interventions in other sectors can be a powerful way to build resilience. This requires coordination to ensure complementary objectives are aligned.

In addition, SPJ interventions with climate objectives might need to consider the population groups they target and then adapt accordingly. Climate change can create new vulnerabilities or exacerbate existing ones, which will not always and necessarily correspond with the goals of existing social protection programs. Social protection interventions need to identify new vulnerabilities, and the overlap between chronic poverty and climate vulnerability in order to design more relevant programs.

This depends on the type of program and the risk to be addressed. Managing climate extremes and disasters through social protection will require identifying who is at risk from different hazards and how those groups overlap with existing social protection coverage. Managing the impacts of fiscal policies such as subsidy removal will require understanding how individuals might be impacted, including through indirect impacts on food prices and transport and especially in urban contexts. To enhance livelihoods and adaptation capacity, focus should be placed on those most vulnerable to slow-onset disasters and repeated shocks.

Finally, the decision on program approaches should be based on an understanding of climate context. For instance, conditional cash transfers that require maintaining the status quo might not be appropriate in

areas where limits to adaptation are being reached. In these cases, incentivizing skills training or alternative livelihoods could be considered. In some cases, in-kind support will be needed, as may complementary benefits to build long-term resilience and economic inclusion.

Key takeaways for SPJ policymakers and practitioners include:

- The design of SPJ interventions including target groups, instruments, and coverage needs to be climate-aware to avoid further increasing vulnerability or exposure to climate change, and thereby contributing to maladaptation.
- Understanding how populations experience climate risks is crucial to avoid the risk of adverse impacts.
- Based on that understanding of the climate risk, the integration of a climate perspective across SPJ programming and at different levels provides an opportunity to rethink and discuss coverage, breadth of benefit/service provision, and target groups. Climate change demands an integration of climate change risks into SPJ programming. This could include considering climate change risks when planning locations for educational or health facilities, understanding the additional challenges of heat for marginalized elderly or physically challenged groups and making registries climate-proof.
- Moving away from program-specific discussion and focusing on a discussion of the wider social protection system are key.
 - More comprehensive and integrated systems with a mix of social insurance, social assistance, and labor market programs better position a country to manage climate change impacts.
 - Furthermore, combining social protection benefits with interventions in other sectors can be a powerful way to build resilience.
- When advancing this reconceptualization, it is important to recognize that SPJ systems are at different stages of development in different countries and that the integration of climate objectives needs to be carefully assessed to ensure both that poverty and climate objectives are aligned, and systems are not overwhelmed. In some contexts, only minimal alignment might be possible, but given the magnitude of the climate challenge, even minimal alignment is better than none.

Operational systems and data

SPJ systems development is essential to social protection achieving many of the climate-related goals outlined above. Updated civil and social registries, linking to early warning action and protocols for shock response, and climate proofing operations are examples of what is needed to ensure a systemic approach to climate-informed social protection.

In particular, a climate risk-informed appraisal of the social protection system can highlight: (i) gaps or areas where social protection might need to become more climate-aware; (ii) the collective impact and effectiveness of social protection programs on resilience-building with regard to the risks faced by the country; (iii) areas that require stronger policy and institutional coordination.

For example, shock response and anticipation could rely on more specific climate data (that is, climate-informed protocols of response). This could include pre-identifying possible climate impacts before shocks hit and experimenting with new indicators on the level of precipitation that could trigger pre-shock disbursement (and thereby maintain welfare). These approaches are currently being tested in Niger. Further areas of development include accounting for slow-onset climate risks that can lead to the erosion

of productive assets, accounting for multi-hazard scenarios (such as a combination of floods and droughts), and developing systems to design regulations of work hours or appropriate compensation for workers affected by climate change.

Key takeaways for SPJ policymakers and practitioners include:

- SPJ operational/delivery systems are essential, regardless of climate change, and integrating climate considerations and relying on climate information can future-proof them.
- Systems that are integrated with climate information include shock-responsive systems, such as pre-identifying climate impacts before shocks hit and experimenting with new indicators on levels of precipitation.
- Operational/delivery systems such as social and civil registries and shock response systems could be upgraded to include climate vulnerability, early warning action, and protocols for triggering shock response, with clear operational guidelines that enable a rapid response. Digital social protection payment programs can also serve an important role in enabling a quick adaptive and rapid response.

Financing

A large financing gap exists in social protection, estimated at US\$ 1.2 trillion or 3.8 percent of the gross GDP of developing countries (Duran-Valverde et al. 2020).⁶ In the future, challenges arising from climate change will increase these financing needs. It is crucial to find additional sources of finance that can support strengthening social protection systems and mainstreaming climate change considerations overall. When considering funding issues, policymakers need to consider not just the cost to adapt to and mitigate climate change, but also the costs of inaction, which can be considerably higher (Malerba 2021). Important sources of and ways to leverage existing financing mechanisms for climate-informed SPJ are outlined below.

Domestic resources and subsidy reforms: In the context of climate change and related environmental policies, climate-related SPJ funding could be achieved by reallocating fiscal space or using part of the revenues collected. This option becomes more evident in relation to the removal and repurposing of subsidies for agriculture, fisheries, and fossil fuels. Subsidies for all three sectors are estimated to exceed US\$7 trillion globally, which is around 8 percent of global GDP (Damania et al. 2023). For instance, global funding for the consumption of fossil fuels have been estimated to amount to US\$1 trillion globally (IEA 2023). Spending on energy subsidies, which is highly regressive, costly, destructive, and distortive, is often greater than spending on social protection spendings. Similarly, nearly two-thirds of global marine fishery subsidies promote overfishing, and more than 80 percent of fishery subsidies are allocated to large-scale fisheries. Despite significant numbers of people employed, little goes to support small-scale fisheries or fisheries/environmental management purposes (Sumaila et al. 2019; Schuhbauer et al. 2020).

Opportunities also exist to upgrade, reform, and strengthen existing taxes and fees, apply new forms of taxation that support mitigation and adaptation, and use these revenues for climate-related SPJ. Carbon taxation has become increasingly prevalent. Estimates suggest that carbon pricing policies that are nationally efficient could raise substantial amounts of revenue (above 6 percent of GDP in China, Russia, Iran, and Saudi Arabia, for example) with the extent of benefits being dependent on the productive use

⁶ This study has been conducted considering the recent COVID-19 pandemic.

of carbon tax revenues (Parry et al. 2014). Research shows that negative effects on poverty can be avoided by recycling just part of the revenues from carbon pricing (Vogt-Schilb et al. 2019). New technologies, monitoring, and data systems can be used to make SPJ programs more climate-informed, improve social protection delivery systems, and facilitate tax compliance by increasing the number of registered taxpayers.

Climate finance: The Paris Agreement stated the intention to mobilize US\$100 billion per year by 2020 to address the mitigation and adaptation needs of developing countries (Weikmans and Roberts 2019). However, until now, the amounts disbursed have not matched these promises. Social protection could play a role in ensuring this financing reaches vulnerable households and people, while tapping climate finance for SPJ can help countries tackle climate change. A review of selected adaptation and mitigation project portfolios of key climate-related funds⁷ shows that social transfers and subsidies have often been used to implement climate change projects, while investments that integrate climate change considerations into social protection programs, policies, and mechanisms are generally lacking (Aleksandrova 2021). Similarly, loss and damage are a critical pillar of the climate change agenda that also presents challenges on how to focus potential available financing on the populations most impacted by climate change already, that is, the extreme poor in highly climate-vulnerable countries. COP27 adopted a decision to create a fund for loss and damage to address adverse climate change impacts that cannot be managed through mitigation or adaptation. While this decision sets the stage for advancement of the evolving loss and damage agenda, adaptive social protection can be considered a primary instrument to channel loss and damage financing with its focus on the extreme poor in climate-vulnerable countries.

At project level, the potential for dedicated green public works or community-based projects to generate revenues from carbon credits remains largely unexplored. An analysis of community-based blue carbon finance projects in Kenya, India, Vietnam, and Madagascar found potential to increase the use of blue carbon finance, particularly when using the voluntary carbon market. Projects may also come across difficulties in abiding by stringent requirements for the use of United Nations Framework Convention on Climate Change mechanisms such as REDD+ (Wiley et al. 2016). A multitude of benefits are associated with incorporating livelihood aspects as part of restoration project design. At the same time, sufficient safeguards need to be incorporated to avoid or reduce leakage.⁸ Other innovative financing schemes include schemes such as PES and biodiversity credits.

Disaster risk financing: For programs to become more responsive to shocks, risk financing strategies will need to be developed with appropriate risk financing instruments prepositioned and linked to responsive interventions. For this, practitioners will need to understand the characteristics of the various financial instruments from micro to macro level regarding ownership of the financial risks, the purpose and timing of the financing streams, and the adequacy of the financial instruments for different risk types with regard to frequency and severity (Meenan, Ward, and Muir-Wood 2019). Leveraging a variety of data sources, the potential financial needs of interventions can be matched to the financial instruments in the form of a risk financing strategy that layers risks and financing accordingly (Bowen et al. 2020). It is key to have a

⁷ The study reviewed project portfolios of the Global Environment Facility Trust Fund, the Least Developed Countries Fund, the Special Climate Change Fund, the Adaptation Fund, and the Green Climate Fund in order to explore the role of these funds in fostering climate action in the social protection domain.

⁸ Leakage occurs when there is a spillover of emissions as a result of a project or activity, such as deforestation outside the boundary area of a restoration project.

comprehensive picture that accounts for all relevant financial flows and the complementarity of the preventive and responsive interventions and the contributions of all public and private, national and international actors. To link financial flows to interventions, it is important to have robust payment mechanisms in place that can absorb the funding made available after a shock and deliver it to households. This emphasizes the necessity for strong and scalable social protection mechanisms to be in place when making financing available (Lung 2022).

In recent years, there have been various interlinked trends in leveraging regional risk pools (enabling, among others, favorable risk diversification, reserve building, and reduced transaction costs), parametric insurance (based on innovative triggers and enabling administrative costs), and financing anticipatory action (responding to the forecast rather than the occurrence of a disaster). Although there have been various examples around the world of successful implementation of these approaches, their application is still in a nascent stage in many countries and requires strong local adaptation and institutional support.

Key takeaways for SPJ policymakers and practitioners include:

- Explore innovative, flexible, and effective financing arrangements. This could include exploring links with climate finance, exploring domestic resources (such as subsidy removal), and further integrating disaster risk financing within climate and SPJ agendas. When climate finance sources are sought, programs should incorporate explicit climate change objectives and considerations.
- Aligning SPJ programming with related programs in other sectors can help build bridges that tap resources, as in agriculture and environment.
- Incorporate SPJ in core climate policies and plans. Incorporating SPJ into countries' key climate policies and green plans and strategies will help strengthen and make more explicit the link of SPJ to climate change.
- Building national, government-led systems for adaptive social protection is a key priority for climate-vulnerable countries as they prepare for loss and damage financing.

5. Conclusion

Climate represents an increasingly important consideration for SPJ systems, both because of its potential to create significant welfare losses and thus increase poverty and vulnerability, and because it requires the world to embark on the green transition without leaving people behind. SPJ's key goals—equity, resilience, and opportunity—and the instruments that support them provide a strong basis for and alignment with climate-related goals. In particular, SPJ can contribute to five key climate goals: (1) reducing vulnerability and improving livelihoods at large; (2) preparing for and responding to climate shocks and disasters; (3) offsetting losses from policies and measures aimed at curbing climate change and greenhouse emissions; (4) supporting the necessary labor market transformation; and (5) helping preserve and restore the environment.

While SPJ has great potential to help achieve these goals, the practice and evidence so far is relatively limited beyond the use of social assistance in climate change adaptation. The limited evidence is partly because SPJ schemes do not yet integrate climate considerations at scale or systematically, and partly because, when they do, climate or environmental outcomes are rarely tracked and evaluated. As such, there are gaps in the integration of SPJ systems and the climate change agenda at all levels, from policy, finance, to program design and operational/delivery systems. Importantly, integrating climate considerations into SPJ systems can help future-proof programming and improve beneficiaries' climate change adaptation and mitigation efforts, while also providing an opening for building up the case for SPJ as an enabler of the green transition and a key climate risk management tool.

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ABSTRACT

This paper reviews the current and potential roles of Social Protection and Jobs (SPJ) policies and mechanisms in supporting address the challenges related to climate change. Given its central role in reducing poverty and vulnerability and in helping people cope with various shocks, SPJ can play a greater instrumental role in both adaptation and mitigation efforts, managing the impacts of climate change as well as the impacts of decarbonization. However, at present, its potential remains underrecognized and SPJ policies and programming seldom integrate climate consideration in a deliberate and strategic manner. To realize this untapped opportunity, this note aims to concisely present SPJ's role in the climate agenda. It first presents an overview of the potential ways in which SPJ policies and programs can strategically support climate goals, while explaining key issues and concepts. It then reviews existing evidence for and examples of current practice on SPJ and climate change and highlights policy and operational considerations, including key takeaways that SPJ practitioners can use to drive the climate and SPJ agenda forward.

JEL Codes: JEL I38, Q54

Keywords: Social Protection, Jobs, Labor, Economic Inclusion, Climate Change, Adaptation, Mitigation, Green Transition, Just Transition, Loss and damage

ABOUT THIS SERIES

Social Protection & Jobs Discussion Papers are published to communicate the results of The World Bank's work to the development community with the least possible delay. This paper therefore has not been prepared in accordance with the procedures appropriate for formally edited texts.

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