The London School of Economics and Political Science

Social Protection in a Changing Climate:

Critical perspectives on an evolving agenda

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Declaration

I certify that the thesis I have presented for examination for the MPhil/PhD degree of the London School of Economics and Political Science is solely my own work other than where I have clearly indicated that it is the work of others (in which case the extent of any work carried out jointly by me and any other person is clearly identified in it).

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I further confirm that this article credits Professor Declan Conway as a co-author for his role in supervising and reviewing my research. I was responsible for the paper's

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Janna Dakini Tenzing

Thesis abstract

'Adaptive social protection' (ASP) has gained much traction among climate and development practitioners in recent years. Broadly, it describes a policy agenda that seeks to maximise the contribution of social protection interventions (involving, for example, the regular transfer of cash to vulnerable populations) to climate action, particularly in lower income countries. Beyond helping people meet their basic needs and cope with increasing climate shocks and stressors, ASP can also help redress inequality and marginalisation which often are at the root of their vulnerability to climate change. As this thesis argues, however, this core characteristic of social protection is being overlooked as the ASP concept attracts more attention and is translated into practice. In my first paper, I analyse literature championing the integration of social protection and climate change adaptation, and discuss whether the transformative potential of ASP is being considered in these discussions. My second paper traces how the influence of climate discourses on social protection programmes themselves impedes progress towards social transformation, through the lens of Ethiopia's flagship Productive Safety Net Programme (PSNP). Finally, my third paper examines the extent to which the PSNP's geographical footprint aligns with its new 'adaptive' objective, by assessing how district-level coverage is associated with the spatial distribution of drought, flooding and conflict risks within the country. Together, the papers contained in this thesis offer a critical perspective on the evolving ASP agenda using qualitative (thematic and discourse analysis) and quantitative (binary logistical regression analysis) research methods. It concludes that the ASP policy agenda certainly holds promise but falls short of realising its potential as an instrument that advances the international community's commitment to 'leave no one behind'.

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Acronyms

ASP	adaptive social protection
CHIRPS	Climate Hazards group InfraRed Precipitation with Station data
CRGE	Climate Resilient Green Economy
CRSP	climate-responsive social protection
CSA	Central Statistics Agency
CSI	Climate Smart Initiative (project)
CSM-PSNP	Climate Smart Mainstreaming into the Productive Safety Net Programme (project)
EFCCC	Environment, Forest and Climate Change Commission (of Ethiopia)
FDRE	Federal Democratic Republic of Ethiopia
FEWS-NET	Famine Early Warning Sytems Network
GTP	Growth and Transformation Plan
HABP	Household Asset Building Programme
HFA	Humanitarian Food Aid
IDS	Institute for Development Studies
IIED	International Institute for Environment and Development
ILO	International Labour Organization / Office
INDC	Intended Nationally Determined Contribution
LDC	Least Developed Country
LSMS	Living Standards Measurement Study (dataset)
MERET	Managing Environmental Resources to Enable Transitions (project)
MoLSA	Ministry of Labour and Social Affairs
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NDC	Nationally Determined Contribution
PAR	Pressure and Release (hazard model)
PSNP	Productive Safety Net Programme
RFM	Risk Financing Mechanism
SASPP	Sahel Adaptive Social Protection Programme
SNNP	Southern Nations, Nationalities and Peoples (Region)
SPEI	Standardised Precipitation-Evapotranspiration Index
SPEI-CRU	Standardised Precipitation-Evapotranspiration Index - Climatic Research Unit of the University of East Anglia (database)
SPEI-HR	High Resolution Standardised Precipitation-Evapotranspiration Index (database)
SRSP	shock-responsive social protection
UNECA	United Nations Economic Commission for Africa
UNFCCC	United Nations Framework Convention on Climate Change
WFP	World Food Programme

CHAPTER 1

Introduction to this thesis and its structure

A version of Section 1.2, 'What do we mean by social protection?' is published in the following policy paper:

Agrawal, A., Costella, C., Kaur, N., Tenzing, J., Shakya, C. and Norton, A. (2019) 'Climate resilience through social protection', Background paper to the 2019 report of the Global Commission on Adaptation. Rotterdam and Washington, DC. Available online at www.gca.org

1.1 Introduction

Social protection has been a central aspect of the international development agenda for the last three decades (Barrientos, 2017; Croppenstedt, Knowles, & Lowder, 2018; Devereux, 2016; Gentilini & Omamo, 2011; Merrien, 2013). By social protection, I mean public policy programmes funded and managed by government or development institutions, which support a segment of society through regular transfers of cash or food, in order to protect them from being stuck in or falling into situations of poverty or vulnerability (Section 2 of this chapter provides a broader overview of the concept). The premise underlying such interventions is universal: in wealthier and poorer contexts alike, the first people we tend to turn to for support during times of need are our families, our friends, or the communities we belong to. Knowing that we have such 'informal' social protection to depend on and help us cope with any present or unforeseen challenges often enhances our confidence to lead and improve our lives. Social protection programmes seek to provide that same 'cushion' or 'safety net' to those who require it, with the view that this would help them cover their most basic needs.

'Adaptive social protection' ('ASP') – the focus of my thesis – has been attracting much attention in recent years. Broadly, it describes a policy agenda that seeks to maximise the contribution of social protection interventions to climate change adaptation, particularly in lower income countries. Conceptually, this makes sense. The extra support an individual or group can count on – from a cash transfer programme, for instance – can enhance their capability to cope with and recover from shocks and stresses associated with climate variability and change. The regular, dependable nature of the support provided can even facilitate longer-term livelihood changes, allowing targeted populations to better anticipate and adapt to increasing impacts. But the benefits of 'adaptive social protection,' I argue, are not limited to this. At the heart of social protection is an understanding of the need to redistribute wealth, opportunities and rights toward marginalised members of society, because it is *this* experience of social inequality and exclusion that is at the root of vulnerability to chronic poverty or any livelihood shock. As such, one crucial aspect of social protection is to help redress

social inequalities and marginalisation (Sabates-Wheeler & Devereux, 2007). Framed in this way, ASP can contribute to efforts to respond to climate change in a manner that extends beyond the technocratic, managerial approaches that dominate adaptation actions today, and which for the most part have been unable to effect the deep, structural change needed for strengthening long-term resilience (Eriksen, Nightingale, & Eakin, 2015; Eriksen et al., 2021). As the three papers contained in this thesis examine, however, this potential is being overlooked as the ASP concept attracts more attention and is translated into practice.

The rest of this introductory chapter is structured as follows. In Section 1.2, I elaborate on what is meant by 'social protection' and trace the agenda's trajectory in international development to its introduction in climate policy. Section 1.3 follows with a presentation of scholarship on vulnerability and political ecology-oriented perspectives on climate change and development that motivate and contextualise my work. Section 1.4 subsequently articulates the overarching research question for this thesis (which is then broken down into sub-questions to be answered in each of my papers) and my overall contribution to academic and policy debates. I introduce my three papers in Section 1.5. Finally, Section 1.6 concludes by outlining the structure of this thesis.

1.2 What do we mean by 'social protection'?

There is no universally agreed definition of social protection. Sabates-Wheeler and Devereux (2007) describe social protection as "all initiatives that transfer income or assets to the poor, protect the vulnerable against livelihood risks, and enhance the social status and rights of the marginalised; with the overall objectives of extending the benefits of economic growth and reducing the economic or social vulnerability of poor, vulnerable and marginalised people" (25). Similarly, Norton, Conway, & Foster (2001) view social protection as: "public actions taken in response to levels of vulnerability, risk and deprivation which are deemed socially unacceptable within a given polity or society" (543). Social protection thus responds to the needs of both the poorest members of society, as well as those among the non-poor facing difficulties, often as a

result of life-course events (such as pregnancy and child-rearing, illness, death) (Norton et al., 2001).

1.2.1 Social assistance, social insurance, and labour market interventions

Cash or in-kind transfers are often first to come to mind as examples of social protection in development policy. They are a form of social assistance, the primary objective of which is to provide regular and direct support to people experiencing or facing extreme poverty, whether it is chronic or transitory (e.g. as a result of livelihood shocks) (Barrientos, 2017; Ellis, Devereux, & White, 2009; World Bank, 2001). A key aspect of social assistance programmes is that they are non-contributory, i.e. their financing does not rely on any form of payment from programme participants themselves. Receiving these transfers can, however, be conditional on a particular behaviour or action, such as engaging in public works or sending your child to school. 'Social assistance' programmes are sometimes referred to as 'social safety nets'.

Social protection can also take the form of social insurance or of labour market interventions (Barrientos, 2017; Croppenstedt et al., 2018; Gentilini & Omamo, 2011; Holzmann & Jørgensen, 2001). Social insurance, unlike social assistance, is contributory and offers protection to individuals and households by pooling resources from the beneficiaries themselves, their employers, and/or the state (through tax revenues) (Norton et al., 2001). Old age pensions are an example of social insurance programmes. Labour market programmes include the provision of employment services, unemployment benefits, and skills-(re)training to enhance workers' productivity and employability (often referred to as Active Labour Market Policies) (Croppenstedt et al., 2018; Lowder, Bertini, & Croppenstedt, 2017). In essence, both social insurance and labour market protection address factors that reduce income generation capacity over an individual's life-course (Barrientos, 2017).

The three broad forms of social protection outlined above are not mutually exclusive (Gentilini & Omamo, 2011); for example, India's Mahatma Gandhi National Rural Empowerment Guarantee Scheme combines features of social assistance and labour market interventions with infrastructure development. Nevertheless, social insurance and labour market programmes are for the most part enjoyed by wealthier population

groups (as well as reflect an interpretation of social protection that is dominant in higher income countries) (Barrientos, 2017; Lowder et al., 2017). Conversely, non-contributory social assistance is a more common social policy response for addressing deeper levels of poverty and vulnerability in lower income country contexts (*ibid*).

The focus of my research is on the latter. Throughout this thesis, I use the term 'social protection' interchangeably with 'social assistance' and 'social safety nets.'

1.2.2 Social protection in development and its entry into climate policy

Lowder et al. (2017) estimate that 2.1 billion people in lower income countries – approximately one third of the population in these regions – receive some form of social protection today. Social protection coverage gaps are large and uneven, however. According to the International Labour Organization (ILO, 2017), only 17.8% of the population in Africa receive at least one social protection benefit, compared to 38.9% in Asia and the Pacific, 67.6% in the Americas, and 84.1% in Europe and Central Asia.

Formalised social protection programmes first gained traction in the 1980s, against a backdrop of structural adjustment reforms and various financial and economic crises around the globe (Barrientos, 2017; Barrientos & Hulme, 2009; Croppenstedt et al., 2018; Devereux, 2016; Gentilini & Omamo, 2011). Interventions from this time have been characterised as paternalistic and reactive, directed toward populations who were evidently not benefiting from 'trickle-down' economic growth policies (Gentilini & Omamo, 2011). However, the agenda was revisited and found new momentum in the early 2000s, with the introduction of the World Bank's 'social risk management framework' for delivering social protection in a more forward-looking way (Holzmann & Jørgensen, 2001; World Bank, 2001). The institution, which remains an extremely influential actor within this space, advocated for an expansion of safety nets to 'springboards' that enable people to engage in risky, though potentially high return activities or investments towards a gradual, long-term move out of poverty, *in addition* to simply protecting them against income or consumption shocks (*ibid*).

Interest in social protection picked up again less than a decade later, in the wake of the global financial and economic crisis and world food price crisis of the late 2000s

(Gentilini & Omamo, 2011). It was around this time that the international development community also began taking stock of progress on the United Nations Millennium Development Goals and launched discussions towards the 2030 Sustainable Development Agenda (and corresponding Sustainable Development Goals). The challenge of deepening inequality worldwide took centre stage in these deliberations, giving rise to the ubiquitous call to *leave no one behind* (United Nations, 2015b). Indeed, despite much progress on reducing absolute poverty rates, it was clear that the world's population was not enjoying the benefits of development progress equally; the poor (everywhere) were becoming poorer while the rich got richer. In addition, new challenges associated with an increasingly interconnected world could not be overlooked in the new development agenda.

Among these was climate change. Where climate change tended previously to fall under the purview of more marginal ministries of environment, by around the late 2000s it began its rapid rise to the top of the international development agenda. More so than ever before, governments at the highest levels began carefully considering how climate change impacts were hindering (or worse, reversing) development progress, and what alternative development pathways could be taken to minimise their contribution to future climate change (Mitchell & Tanner, 2006, 2008; Stern, 2007). Understanding of the magnitude of climate change's disproportionate impact on already poor and marginalised communities in the absence of climate-resilient and low greenhouse gas emissions development policies was also increasing, thanks especially to the high-profile reports of the Intergovernmental Panel on Climate Change (IPCC).

It is within this context that greater attention has begun to be paid to the role of the social protection agenda in the global climate change response. Social protection programmes have typically focused on supporting people address drivers of poverty or vulnerability that are ***idiosyncratic*** to their lives (or those of their households) – such as youth, old age, illness, disability, discrimination, or shocks like loss of employment or death of the principal earner (Béné, Devereux, & Sabates-Wheeler, 2012; Holzmann & Jørgensen, 2001). Increasingly, they have started to also pay attention to ***covariate*** shocks and stressors that affect the livelihoods of large numbers of people at the same time – such as prolonged drought, flooding, or other such impacts of climate variability

and change (C. O'Brien et al., 2018). Various calls to systematically 'adapt' social protection to climate change have followed. Today, they are crystalising around an 'adaptive social protection' policy agenda that, according to the World Bank, "helps to build the resilience of poor and vulnerable households by investing in their capacity to prepare for, cope with, and adapt to shocks: protecting their wellbeing and ensuring that they do not fall into poverty or become trapped in poverty as a result of the impacts" (Bowen et al., 2020: p.6).

1.3 Motivations and foundational literature

I came to this topic out of interest in the concept of vulnerability, which is central to both the social protection and the climate change adaptation policy agendas. As Adger (2006) writes, 'vulnerability' is "a powerful analytical tool for describing states of susceptibility to harm, powerlessness, and marginality of both physical and social systems, and for guiding normative analysis of actions to enhance well-being through reduction of risk" (268). However, the author notes, there are several ways the concept has been applied in the context of climate change, reflecting the epistemological positions of two broad research streams: entitlements and hazards (within which he includes political ecology). In the following, I briefly outline foundational literature and concepts relating to these two streams. This is useful as part of an introduction to the topic of adaptive social protection, because the broader social protection agenda often reflects entitlements-based understandings of vulnerability to poverty (Ellis et al., 2009). I then follow with an overview of political ecology-oriented critique of climate change adaptation and development that further highlights contested understandings of vulnerability to climate change, and which underpins my thesis.

1.3.1 Entitlements- and livelihoods-based approaches to vulnerability

Entitlements-based research has focused predominantly on the vulnerability of social systems to poverty and related developments challenges like food insecurity. It has roots in Sen (1983)'s theory of entitlements, which explained the principal cause of famines to be the inability of certain groups of people to *acquire* food, irrespective of

the *availability* of food. 'Entitlement' to food is determined by: (i) individuals' 'endowments,' or the set of productive resources they own (e.g. land, or labour power) and for which they can demand a price in a market; (ii) the opportunities they have to increase their endowments; and (iii) the conditions through which these endowments can be exchanged, e.g. for food (*ibid*). As such, famines occur when adverse social and economic conditions, together with the absence of State action to protect or promote entitlements, lead to a collapse of entitlements (Drèze & Sen, 1991). This is in contrast to neo-Malthusian perspectives that famines are the linear result of shortage of food (because the natural resources to produce food have been depleted due to 'over-population', or lost to drought, floods or pests) (Devereux, 2001).

Sen's theory formed the basis of how vulnerability is approached under the sustainable livelihoods research on poverty alleviation (Adger, 2006). Chambers & Conway (1991) defined a livelihood as comprising "the capabilities, assets […] and activities required for a means of living" (6). The term 'capabilities' also comes from Sen (1983, 1986) and refers to what individuals are able (or have the 'freedom') to be and do with their entitlements – such as, to be adequately nourished, to avoid ill-health, to access education, and to live life without shame. 'Assets' are what individuals and households have access to; they can be tangible or intangible, and were later proposed to be categorised as economic or financial, natural, human, and social capital (Scoones, 1998). A livelihood is sustainable, Chambers & Conway (1991) argued, when it can "cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation" (6). Vulnerability therefore corresponds to one's susceptibility to situations where one is not able to sustain a livelihood (Adger, 2006). It constitutes the risk of adverse events occurring as well as the ability to cope with and recover from simultaneous stressors or shocks (e.g. by rebuilding assets) before the next ones are experienced (Olsson et al., 2014).

1.3.2 Natural hazards and political ecology

As Adger (2006) notes, the entitlements-based approaches have traditionally been more concerned with the social realm, often underplaying how ecological processes might affect or be affected by livelihood outcomes and decisions. Hazards research, on the

other hand, emerging out of concern over why the impacts of seemingly different 'natural' disasters have common characteristics, brought together physical science, engineering and social science to explain links between elements of social-ecological systems (Adger, 2006). It demonstrated that the impacts of natural hazards do not inevitably lead to disasters, but that these impacts are uneven across different groups within a society (Blaikie, Cannon, Davis, & Wisner, 1994; Burton, Kates, & White, 1978; Cannon, 1994; Cutter, 1996; Wisner, Blaikie, Cannon, & Davis, 2014). The level of exposure of a population (e.g. where people reside), the resources and opportunities it has access to, and the degree of sensitivity by which these resources and opportunities are affected, are such factors that determine its vulnerability to hazards (Adger, 2006; Blaikie et al., 1994; Burton et al., 1978; Burton, Kates, & White, 1993; Cannon, 1994; Cutter, 1996; Cutter et al., 2008; Wisner et al., 2014). Blaikie et al. (1994)'s influential 'Pressure and Release' (PAR) model described a progression of vulnerability from root causes to dynamic pressures to unsafe conditions, leading to disaster under the pressure of hazard impact (and vice versa).

More critical scholars of humans' and societies' relations with the environment (who came to be known as 'political ecologists') sought to further de-naturalise hazards and emphasise the role of the political economy of resource use (or root causes, in the PAR model) in shaping vulnerability (Blaikie, 1985; Blaikie & Brookfield, 1987; Watts, 1983a, 1983b). Seminal works by Watts (1983a, 1983b), Blaikie (1985), and Blaikie & Brookfield (1987) underscored that because human-nature relations are social, it is essential to understand how the historical, social and political contexts within which environmental hazards emerge contribute to producing vulnerability as well as the hazards themselves (and/or the perception and understanding of them). Crucially, they showed that the unequal distribution of, access to and control of resources (or more broadly, *entitlements*) that lead to differentiated patterns of accumulation are why poor populations tend to be most susceptible to harm in processes of environmental change; but that poverty neither causes nor is necessarily a result of environmental degradation (*ibid*). As such, examining power relations at the root of vulnerability has always been a core aspect of political ecology research (Robbins, 2012; Watts, 2015; Watts & Peet, 2004). As it grew further into its own 'field', scholars have shown that power structures

manifest and are reproduced not only materially but also epistemically, through narratives, discourses and 'ways of knowing' about environmental change (Paprocki, 2018, 2021).

1.3.3 Critical perspectives on adaptation and development

According to Adger (2006), applications of vulnerability in the context of climate change adaptation represent a cross-fertilisation of entitlements- and hazards-based approaches on the use of environmental resources and response to environmental risk. I add that this cross-fertilisation moreover reflects a dominant treatment of adaptation as inseparable (if not indistinguishable) from poverty reduction and development (Ayers & Dodman, 2010; Schipper, Tanner, Dube, Adams, & Huq, 2020; Sherman et al., 2016). Indeed, lower income country contexts have long prioritised and been the focus of policy and action on adaptation (rather than mitigation) in the global climate response (Khan & Roberts, 2013). The integration of climate change adaptation in existing development policy and programmes continues to be a salient path towards reducing vulnerability, blurring lines between adaptation and development (Schipper et al., 2022; Sherman et al., 2016) (see also Box 1.1). And, in light of lessons from the first generation of adaptation practice in the early 2000s and the critique that it paid too little attention to non-climatic, socioeconomic drivers of vulnerability, a new wave of 'pro-poor adaptation' has surfaced (Olsson et al., 2014; Sherman et al., 2016). Seeking to combine poverty alleviation and vulnerability reduction outcomes, pro-poor adaptation action draws even more heavily on livelihoods research (*ibid*). In fact, efforts to integrate climate considerations into social protection programmes, which themselves are often based on entitlements- and livelihoods-based understandings of vulnerability (Ellis et al., 2009), are a good example of this. Such interventions, characterised by a focus on micro-level risks to household assets, livelihoods and wellbeing, are said to offer 'no-regrets' or 'win-win' solutions for poverty and vulnerability reduction, without having to rely on complex climate projections (Heltberg, Siegel, & Jorgensen, 2009).

For political ecologists, however, the rise of the climate change adaptation agenda has triggered a sense of déjà-vu, in terms of the insufficient attention being paid to power and politics (Bassett & Fogelman, 2013; Ribot, 2011, 2014; Taylor, 2015; Watts, 2015).

Writing around the same time as Adger (2006), K. O'Brien, Eriksen, Nygaard, & Schjolden (2007) showed that certain interpretations of vulnerability were continuing to be privileged over others in adaptation policy and research. Just as earlier theorists critiqued mainstream hazard and environmental management discourses' over-emphasis on the physical factors of ecological risks, they found adaptation to be predominantly focused on limiting 'outcome vulnerability' – a linear result of the exposure of a social-environmental system to *external*, biophysical conditions and processes associated with climate change (K. O'Brien et al., 2007). Based on a scientific framing of climate change, this interpretation of vulnerability has translated into a preponderance of highly technocratic and top-down interventions to protect people against climatic hazards, such as building sea walls against flooding, or engineering drought-resistant seeds (*ibid*). Such actions are often insufficient, however, as they often only offer solutions that enable populations to cope with immediate shocks and stresses, but not necessarily anticipate and adapt to the effects of climate change occurring over much longer time-scales (Conway & Mustelin, 2014). At worst, they can be 'maladaptive' if the short-term coping strategies they promote become detrimental in the long-run (Conway & Mustelin, 2014; Magnan et al., 2016; Schipper, 2020). They can also be maladaptive if they redistribute vulnerability spatially onto other areas or populations, and/or reinforce or create new forms of vulnerability for certain members of society, such as those who have been excluded from decision-making around the adaptation intervention (Eriksen et al., 2021).

K. O'Brien et al. (2007) argued it is therefore important for the adaptation agenda to have a human-security framing, by also recognising vulnerability as 'contextual', given that climate change interacts dynamically with a larger process of political, institutional and socio-economic change. In this case, reducing vulnerability would involve "altering the context within which climate change occurs, so that individuals and groups can better respond to changing conditions" (*ibid*: 76). Importantly, they write, while scientific framings have long dominated climate policy debates, the two framings are complementary and redressing the balance between the two is necessary for broadening the reach and scope of adaptation. In fact, a further benefit of considering a human-security framing is that it offers multiple points of intervention for adaptation,

even under conditions of uncertainty (K. O'Brien et al., 2007). Indeed, actions to reduce contextual vulnerability need not depend on complex climate projections (Heltberg et al., 2009).

Ribot (2011, 2014) agrees, but also attributes current efforts' focus on 'outcome vulnerability' to a shift in discourses on climate-related risk from reducing vulnerability to building adaptive capacity. These concepts are undeniably related—reducing vulnerability being a key part of building resilience and adapting to socio-environmental change. However, researchers and policymakers often favour a resilience-building framing over vulnerability reduction, arguing that the latter treats people as passive victims, and overlooks their role as active agents (Cannon et al., 2003 in Ribot, 2011). Ribot (2011) responds to this criticism, however, by emphasising the need for a 'vulnerability first' approach to adaptation and resilience. He argues that unlike a vulnerability approach which underlines causality (i.e. asking '*why* are people vulnerable or at risk'), a resilience framing shifts attention immediately on results ('*how* do people adapt'). This leads adaptation efforts to focus on palliative responses directed primarily to risks within biophysical hazards, rather than on actions that address the underlying causes of social vulnerability, as O'Brien et al. (2007) note is predominantly done. The author further argues that the 'adaptation first' framing puts the onus of adjusting to new circumstances on the affected population (by its emphasis on agency), diverting attention away from economic, social, institutional, political and historical factors that produce and perpetuate marginality and affect risk (Ribot, 2011, 2014).

Box 1.1: Vulnerability and adaptation debates in the context of the United Nations Framework Convention on Climate Change (UNFCCC)

i) Illustrating why different interpretations of vulnerability matter

Geopolitical discourses about climate finance for adaptation also perpetuate understandings of vulnerability as 'outcome' (Khan & Roberts, 2013; Ribot, 2014). In fact, in my previous work supporting the 'Least Developed Countries' (LDC)

negotiating bloc within the UNFCCC[1], I witnessed first-hand how this very issue – the definition of vulnerability – threatened to break down negotiations on the Paris Agreement ahead of its adoption in December 2015. Because multilateral and bilateral finance for adaptation is prioritised for the countries that are considered most vulnerable to climate change, it is in every government's interest to be recognised as one. Indeed, an acknowledgement of certain countries' vulnerability to climate change implies that others are less in need of support. But what determines a country's vulnerability over others? GDP? Geographical location and topography? The degree to which the country faces climate-related hazards? Past UNFCCC decisions have specified that the vulnerable include the least developed countries (LDCs), small island developing states (SIDS) and Africa. However, as countries excluded from this list (including from South-East Asia and Latin America) argued, *they* also face regular climate-related shocks and stresses, and are no richer or more developed than certain countries in Africa. Not wanting to perpetuate such prioritisation of countries, they insisted that all references to Africa be removed from the final draft of the Agreement, and that LDCs' and SIDS' financial and Institutional capacity constraints to address climate change be decoupled from the issue of vulnerability (Abeysinghe, Craft, & Tenzing, 2016). Thus, although the Agreement several times refers to 'countries that are particularly vulnerable to the adverse effects of climate change' (United Nations, 2015a), it avoids any clarification about how a country's vulnerability relative to another is determined.

i) What counts as adaptation, and what counts as development?

Related to the above debate, the unwavering position of lower- and middle-income countries has been that global climate finance should be *additional* to development assistance, as a matter of global climate justice (Abeysinghe et al., 2016; Fisher, 2015; Schlosberg & Collins, 2014). Indeed, it is a known fact that the adverse effects of

[1] Prior to embarking on my PhD studies, I worked as a researcher at the International Institute for Environment and Development (IIED) in London, providing technical support to the Chair and lead negotiators for climate finance and gender-related issues of the Least Developed Countries (LDCs) Group of negotiators in the UNFCCC processes. The LDCs are a UN-defined category of countries representing the 'poorest and weakest segment' of the international community (UN-OHRLLS, 2022). Ethiopia belongs to the LDC Group.

climate change today are felt most acutely by those countries which have historically contributed the least to climate change (IPCC, 2022). Because climate change represents a new and separate challenge from development, these nations have long insisted that finance for climate-related activities – particularly adaptation and increasingly, low-carbon growth – should likewise be separated from international commitments to development assistance (Khan & Roberts, 2013). A common frustration among lower income countries is that development programmes are simply being 'retrofitted' or reframed as adaptation ones, so that the financial support provided for them are double-counted as climate finance for adaptation (Eriksen et al., 2021; Khan & Roberts, 2013; Ribot, 2014). Yet, identifying the specific elements of programmes to be supported through climate finance perpetuates the notion that measures to reduce vulnerability and build resilience should be directed only to the 'separate and additional' stresses that people experience as a linear result of biophysical climate impacts (Khan & Roberts, 2013). It undermines the fact that 'good,' or even '*better*' development – i.e. that aims to reduce poverty and social inequalities – can not only can increase populations and systems' resilience to climate change, but is also fundamental to inclusive and long-lasting adaptation. And critically, it implies a 'non-responsibility' for the social, political and institutional conditions that have historically shaped marginality, and that now interact with climatic stressors to exacerbate vulnerability (Ribot, 2014). Although addressing these structural drivers of poverty and vulnerability would seemingly contribute to blurring the (artificial) lines separating development and adaptation, it in fact responds to the shortcomings of both the development and adaptation agendas, and is thus necessary to building not only more resilient but also just societies in the context of climate change (Fisher, 2015; Ribot, 2014; Schipper et al., 2020).

These two related, geopolitical debates illustrate how different interpretations of vulnerability have broad consequences: whether at the international, national or local level, they determine how agendas are set and implemented and how successful they are at achieving their long-term objectives (K. O'Brien et al., 2007; Ribot, 2011).

The critique of current adaptation policy and practice as overly technocratic and not focusing on the roots of vulnerability has more recently led to calls for 'transformation'. Transformation is a fundamental shift away from 'incremental' approaches to adaptation – characterised by time-bound, project-driven responses directed towards present or projected biophysical risks and operating within existing structures and systems – toward *transformative* ones, which challenge the very structures mediating *both* development and adaptation choices for far-reaching, long-term impact (Blythe et al., 2018; Eriksen et al., 2015; Manuel-Navarrete & Pelling, 2015; Nightingale, Gonda, & Eriksen, 2022; Pelling, 2011; Pelling, O'Brien, & Matyas, 2015). Transformative pathways seek to redress inequalities and empower marginalised populations, based on a deep understanding of the wider socio-political contexts within which vulnerability of livelihoods to poverty and climate risks are situated (Eriksen et al., 2015; Singh et al., 2021). Though difficult to conceive, transformation thus promises greater social inclusion, equity, justice and ultimately, long-lasting vulnerability reduction.

1.4 Research questions and overarching contribution

What attracted me about social protection is the agenda's potential to address the *non-climatic* factors that render marginalised segments of society more vulnerable to the impacts of climate change, and to foster such transformation through its social justice goals. The scholarship outlined above constitutes the starting point for the overarching question posed in this thesis: '**How transformative is adaptive social protection?**'. This is broken down into the following sub-questions, which are answered through my three substantive papers (contained in Chapters 3, 4 and 6).

What is the conceptual scope of a 'transformative' ASP agenda?	***Chapter 3 (Paper 1)***
➢ What evidence exists about the role of social protection in facilitating adaptation to climate change? ➢ To what extent does this evidence consider how ASP can help transform the socio-political contexts where vulnerability to climate change originates?	

What are potential barriers to adopting a transformative approach to ASP at the national level?	***Chapter 4 (Paper 2)***
➢ Why is Ethiopia's Productive Safety Net Programme (PSNP) increasingly recognised as an 'adaptive' or 'climate-smart' programme? ➢ How do discourses on development and climate change shape Ethiopia's 'climate-smart' agenda (and how does this agenda serve or challenge the political status quo)?	
How can 'technocratic' ASP programmes be assessed against transformative aims?	***Chapter 6 (Paper 3)***
➢ To what extent does Ethiopia's PSNP coverage reflect the spatial distribution of drought, flooding and conflict risks in Ethiopia?	

The major contribution that I offer through this thesis is a critical, multi-method examination of an evolving ASP policy agenda, grounded in rights-based and political ecology scholarship of climate change and development. The ASP agenda has received plenty of interest from policymakers over the last few years (Agrawal et al., 2019; Bowen et al., 2020; Daniel O. Gilligan, Devereux, & Tenzing, 2022; Hallegatte et al., 2016; World Bank, 2018b). However, academic research on ASP has been limited, with most thinking and discussion on the topic happening within the international development community of practice and contained in 'grey' literature (published by institutions such as the World Bank and the Institute for Development Studies, among others). ASP has not been studied from a critical, political ecology lens before. Yet, adopting such a perspective facilitates necessary reflection on the direction the agenda is taking, sheds light onto assumptions being made in efforts to advance this agenda, and points to unintended consequences of leaving such assumptions unchallenged.

Collectively, the papers contained in this thesis show that the current ASP agenda does contribute to building resilience to climate change in several ways: in the immediate term, the regular, dependable provision of support helps individuals, households or communities living in poverty to meet their basic needs and thus withstand or cope with climate-related shocks and stresses; it likewise helps prevent them from falling into

deeper situations of poverty or vulnerability as a result of a climate shock or prolonged stress on their livelihoods; and in the medium term, it can encourage them to take advantage of opportunities to strengthen or diversify their livelihoods to be able to adapt to projected climate-related shocks and stresses. These functions of social protection that make the agenda 'adaptive' are vital to efforts supporting climate change adaptation. But, this thesis argues, ASP has the potential to do more for its targeted populations. A core function of social protection is to redistribute wealth, opportunities and rights towards marginalised members of society whom the benefits of business-as-usual development or adaptation interventions too often do not reach. As such, I argue that ASP can be *transformative* over longer timescales if the agenda situates vulnerability to climate change in the wider social context within which climate hazards emerge. In other words, transformative adaptive social protection would entail identifying and actively redressing social inequalities and empowering marginalised populations through the provision of social protection.

So far, however, the ASP agenda has limited its focus to making technocratic adjustments to existing programmes for responding to biophysical risks associated climate change. While doing so is sensible, it does not address the structural roots of vulnerability to climate change. An unintended consequence of pursuing such a technocratic agenda is that resources for already overburdened social protection systems are diverted towards pursuing climate goals, paradoxically perpetuating, rather than reducing the structural vulnerability of those whom ASP was intended for in the first place.

An overview of each of my papers follows. Their specific contributions to academic and policy debates are revisited in Chapter 7.

1.5 Overview of empirical papers

1.5.1 Integrating social protection and climate change adaptation: A critical review of literature and an evolving policy agenda

In my first paper (Chapter 3), I present two main ways in which social protection has been approached in development policy: a growth-oriented approach, and a rights-based one. I draw parallels between the critiques of the growth-oriented approach by proponents of rights-based social protection and those of political ecology scholars on current approaches to climate change adaptation. I find that both advocate for broadening the scope of social protection and adaptation (respectively) to tackle the root, structural causes of poverty and vulnerability. In doing so, they question how the socio-political contexts within which actions are implemented might themselves be reinforcing power structures that lead to differentiated impacts of shocks within societies.

Based on this, I adapt and employ a typology of 'resilience capacities' proposed by Béné, Wood, Newsham, & Davies (2012) to assess how far the transformative potential of social protection is highlighted in the current evidence base regarding its contribution to climate action. My method is guided by Berrang-Ford, Pearce, & Ford (2015)'s framework for selecting and systematically reviewing adaptation research. The publications I consider represent a 'proxy sample' of the research that exists on this topic.

I find broad agreement on social protection's ability to enhance individuals' and households' absorptive and adaptive capacities to cope with and respond to climate-related shocks and stresses in the immediate term. There is comparatively little evidence or attention being paid to its potential to enhance transformative capacity (e.g. through social empowerment) over longer timescales, however. The existing literature is also cautious about overstating social protection's role in contributing to climate action; indeed, some authors warn that it can even promote behaviours or actions that are maladaptive in the long run.

Turning to articles that form the basis for the ASP agenda and shape its future directions, I find far greater emphasis placed on introducing technocratic and managerial changes to existing programmes so that they are better able to manage and respond to increasing climatic shocks. Whilst such considerations are indeed sound, I argue that they risk perpetuating a narrow interpretation of vulnerability to climate change as arising solely from the direct exposure to risks located within biophysical hazards, as political ecologists caution. Considering that the original ASP concept proposed by Davies, Guenther, Leavy, Mitchell, & Tanner (2009) was in fact based on a rights-based approach to social protection, I conclude that the ASP policy agenda, as it is taking shape, is missing the opportunity to address root causes of vulnerability to climate change and advance long-lasting, transformative adaptation.

1.5.2 Climate discourses as barriers to rights-based adaptive social protection: How historical politics shape Ethiopia's climate-smart safety net

The paper contained in Chapter 4 builds on the arguments of the previous paper on growth-oriented and rights-based social protection in the context of climate change. It questions why and how the very narratives that promote the integration of climate change considerations in social protection programmes can hinder progress towards social transformation. I focus on the case of Ethiopia and its flagship Productive Safety Nets Programme (PSNP). Already widely considered to be a model for the region, the PSNP is now also being hailed as 'adaptive' or 'climate-smart', and has even been called Africa's largest adaptation programme (European Commission, 2015). Based on an analysis of policy documents on climate change and social protection in Ethiopia, as well as data from key informant interviews, I examine how narratives of moral leadership and green growth associated with the country's national climate strategy shape the PSNP's 'climate-smart' evolution.

My methodology and analysis are guided by political ecology scholarship which, as outlined in Section 1.3, is concerned with questions of power and politics surrounding the uneven distribution of resources, opportunities and risks in the process of environmental change. I use discourse analysis, a popular method (inspired by Foucault

(1972)) used in the critical social sciences to make the operation of power *implicit* in language, practices and knowledge paradigms, *explicit* (Alejandro, 2018, 2020). In line with seminal works by critical development theorists James Ferguson (1994) ('The Anti-Politics Machine') and Tanya Murray Li (2007) ('The Will to Improve'), I reveal how the rhetoric surrounding the PSNP and its climate-smart evolution are being de-politicised and de-historicised by rendering problems of deep poverty, food insecurity and climate change vulnerability in Ethiopia 'technical'.

My analysis builds particularly on the works of Leach & Mearns (1996), Hoben (1996, 1997) and Keeley & Scoones (2003), who highlighted the importance of challenging 'received wisdoms' on environmental issues in Africa. On Ethiopia specifically, Hoben (1996, 1997) argued that politically expedient neo-Malthusian narratives were used by the military regime and donors alike to justify the creation of large scale food-for-work programmes in the wake of 1984-85 famine, without any consideration of the environmental impact these would have or the economic costs and benefits they would entail. These narratives not only survived the fall of the military regime; but they later also came to co-exist with new, and somewhat contradictory policy discourses on green revolution and environmental rehabilitation, as Keeley & Scoones (2003) examine.

In my paper, I show that these entrenched narratives have continued to permeate Ethiopian food security policy (under which the PSNP was established) and are now also being reproduced through the country's climate policy. As they have done in the past, I argue they serve to rationalise the presence of a strong central State and its control over scarce land resources and population distribution. The PSNP is thus conditioned to favour technocratic, productivist approaches to adapting to climate change that help reproduce, rather than challenge these entrenched politics. As such, climate discourses dilute the potential of the PSNP to serve more rights-based objectives that would address the structural roots of PSNP participants' vulnerability to climate change.

1.5.3 Does the adaptive PSNP's geographic footprint align with climate and conflict risks? A binary logit analysis

Finally, my third paper (contained in Chapter 6) approaches the question of how 'technically' adaptive social protection programmes might be assessed based on a

'transformative' interpretation of ASP. I focus again on the PSNP, which, for its fifth phase of implementation that began in 2021, has been officially branded an 'adaptive' safety net (FDRE, 2020b). In terms of scope and methodology, this paper represents a significant departure from political ecology-based research traditions and critiques of adaptation; indeed, it does not involve further critical analysis of the power and politics operating within the PSNP. Nevertheless, my analysis continues to adopt the perspective that to be transformative, ASP (and climate action more broadly) must situate vulnerability to climate change within the wider context within which biophysical hazards emerge.

To make this point more tangible to an audience of policymakers and practitioners, I focus on conflict as one such social dynamic of vulnerability experienced by rural Ethiopians. Indeed, as critical scholars have observed, climate change action often assumes peaceful, non-conflictual settings, yet conflict arises from the very same political, social and economic contexts underpinning vulnerability to climate change (Abrahams & Carr, 2017; Eriksen et al., 2021; Naess, Selby, & Daoust, 2022; Ribot, 2014; Tänzler, Carius, & Maas, 2013). I also turn my attention specifically to the PSNP's system of geographic targeting, which is the first step in the process deciding which households will be eligible to participate in the programme; the spatial patterns of biophysical climate risks are therefore essentially what determine the PSNP's 'adaptiveness'. As such, my paper assesses the extent to which PSNP supports areas exposed to three major risks in the country – drought, floods, and political conflict – using a binary logit regression methodology.

Besides being unique in its quantitative assessment of the 'adaptive' PSNP through a contextual vulnerability lens, my paper constitutes a rare district-level analysis of the programme. District-level spatial analyses of Ethiopia are notoriously challenging because the country's administrative boundaries are not agreed and change often. I use geospatial conflict data (2005-2021) offered by the Armed Conflict Location and Event Data Project (ACLED) (Raleigh, Linke, Hegre, & Karlsen, 2010) to construct my conflict variables. I construct district-disaggregated drought variables using Peng et al. (2020)'s high-resolution pan-African drought index data. Finally, I compute district-level flood

exposure estimates based on high resolution flood hazard and population data, based on Rentschler, Salhab, & Jafino (2022)'s study.

My analysis generates both expected and unexpected results. Controlling for poverty headcount rate and population density, I find PSNP coverage to be positively associated with districts experiencing year-to-year drought conditions. However, those with a tendency for higher multi-year variability in drought are *less* likely to be covered. I furthermore find no relationship between PSNP coverage and exposure to flood risk. Finally, whilst the programme is currently well-targeted toward districts facing disproportionately high levels of political insecurity, this association disappears if I disregard the recent escalation of conflict beginning in 2020.

Ultimately, this study finds that the 'adaptive' PSNP is currently still privileging areas that are prone to year-to-year drought corresponding to the failure of summer rains. The failure of these rains, which occur in Ethiopia's primary cultivation season, have long been connected to the country's experience with famine which, (as I show in Paper 2 (Chapter 4), continues to underpin policy narratives and decisions today). The paper points to risks (biophysical and social) that PSNP administrators need to be more attentive to as they consider expanding the programme's geographical footprint to become more 'adaptive'. Doing so could constitute a step forward towards reducing contextual vulnerability.

1.6 Structure of this thesis

This thesis is made up of three **standalone** research papers. In Chapter 2, I expand on my overall research processes, including my justification for a focus on Ethiopia's PSNP, my methodological choices for each of these papers, how I reformulated my research strategy to overcome COVID-19 disruptions, and my reflections on positionality.

Chapter 3 contains the first paper: '**Integrating social protection and climate change adaptation: A critical review of literature and an evolving policy agenda.**' An overview of relevant literature published after my analysis was conducted can be found in Appendix A. This helps give an updated picture of current thinking on this topic;

however, the contents of these articles do not change the overall argument and findings of the paper.

Chapter 4 contains my second paper: '**Climate discourses as barriers to rights-based adaptive social protection: How historical politics shape Ethiopia's climate-smart safety net**.' For readers who are interested, a more detailed version of Section 3.3 reflecting Ethiopia's complex political history can be found in Appendix B.1. Appendix B also includes a table of dates and informant categories for the interviews I conducted (B.2), as well as samples of the participant information sheet and consent form I provided to my interview respondents (B.3).

Chapter 5 provides supplementary material for Paper 2 (Chapter 4), to provide greater insight into my primary and secondary data as well as the steps taken in my analysis.

Chapter 6 contains my third paper: '**Does the adaptive PSNP's geographic footprint align with climate and conflict risks? A binary logit analysis.**' Results of logit models I ran with alternative econometric specifications for sensitivity testing can be found in Appendix C.

Chapter 7 concludes this thesis with a revisit to my research questions and an outline of the contribution it makes to academic and policy literatures.

CHAPTER 2

Research processes

2.1 Introduction

This chapter provides an overview of my research processes, in a level of detail that typically does not feature in papers for publication. As my second and third papers (contained in Chapters 3 and 4) focus on Ethiopia's experience with adaptive social protection, Section 2.2 provides background on its flagship social protection programme and its national climate change policy, which justify its selection as a case study. Section 2.3 expands on my methodological choices for each of these papers. Section 2.4 explains how I reformulated my research strategy to overcome COVID-19 disruptions. Finally, Section 2.5 provides my reflections on researcher positionality.

2.2 Justification for focus on Ethiopia

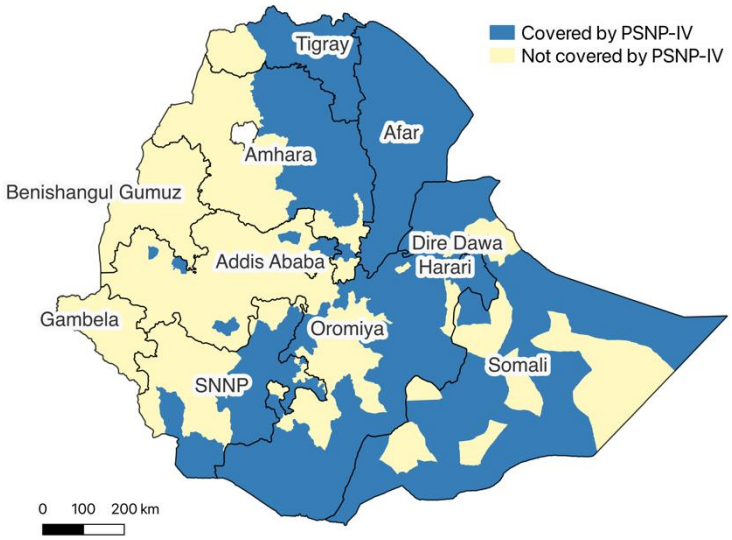
Ethiopia is unique among low-income countries for showing leadership not only on social protection and climate change policy, but also adaptive (or 'climate-smart') social protection, making it an appropriate and exciting case to focus two of my papers on. Indeed, its PSNP is widely cited as a good example of social protection contributing to climate change objectives, and even a model for other countries to follow (e.g. Bowen et al., 2020; Hallegatte et al., 2016; Norton et al., 2020; Ulrichs, Slater, & Costella, 2019). The following outlines the core characteristics of the PSNP, Ethiopia's climate change policy, and steps taken to render the PSNP 'climate-smart' or 'adaptive'.

2.2.1 Leader on social protection

Ethiopia is considered a frontrunner on social protection. Its flagship programme, the PSNP, is the second largest of its kind in sub-Saharan Africa. It has been providing cash and food transfers to chronically and transitorily food insecure rural households in select *woreda*s (districts) since 2005. Up until 2020, its overarching goal was to strengthen participating households' resilience against shocks, enhance rural livelihoods, and improve nutrition and food security (FDRE, 2014b). Now in its fifth phase of implementation (2021-2025), it has shifted its focus from chronic food insecurity to 'extreme poverty through shocks' as its overarching targeting criterion (FDRE, 2020b).

The PSNP is currently operational in the regions of Afar, Amhara, Harari, Oromiya, Southern Nations, Nationalities and Peoples (SNNP) Region, Somali and Tigray (FDRE, 2020b). The World Bank (2018a) estimates that 8 million individuals (or 2.5 million households) receive support from the programme.

Figure 2.1: Map of PSNP coverage in 2017, during its 4th implementation phase (2015-2020). Adapted from UN OCHA (2017).



Participating households with able-bodied adult labour—around 80% of PSNP clients—receive transfers for six months of the year (coinciding with pre-harvest, planting and sowing season) in exchange for engaging with public works. These public works focus on integrated community-based watershed development (with activities related to soil and water conservation and rangeland management in pastoral areas), as well as the construction of roads, water infrastructure, schools and clinics (FDRE, 2014b). The intention is to generate benefits for entire communities, i.e. beyond individual households covered by the programme (FDRE, 2020b). Households without labour capacity are entitled to unconditional transfers and other social protection services for twelve months of the year.

In addition to transfers, PSNP participants can access technical assistance and training in livelihood activities to help them increase and diversify their incomes and build their asset base. The poorest households receive livelihood transfers unconditionally, while others are referred to credit providers (FDRE, 2014b). This component of the PSNP is

sometimes still referred to as the Household Asset Building Programme (HABP) because they had constituted separate pillars of the national Food Security Programme before merging in 2015. A resettlement component also existed in its early years of operation, under which households who volunteered were relocated to more agriculturally productive areas of the country – but this was later removed due to its unpopularity with donors and Ethiopians generally (The IDL Group, 2008). The provision of transfers – particularly through the public works – has always been the principal feature of the PSNP.

For its fifth phase of implementation (2021-2025), the PSNP has been costed at USD 2,284 million (World Bank, 2021). Although it receives most of its funding from bilateral and multilateral sources (with the World Bank leading the donor coordination team), this figure includes a substantial contribution of USD 590 million in cash and in-kind by the Government of Ethiopia itself—a sure sign of its commitment to the programme.

2.2.2 Leader on climate policy

Ethiopia has likewise developed a reputation for being incredibly progressive within international climate policy circles, with a strong commitment to act on climate change despite its negligible carbon footprint. As a UN-classified 'least developed country' (LDC), the government submitted its National Adaptation Programme of Action (NAPA) in 2007 under the UN Framework Convention on Climate Change (UNFCCC) process, outlining priorities and projects to address the country's most urgent and immediate adaptation needs (FDRE, 2007). It later issued Ethiopia's Programme of Adaptation to Climate Change, which called on all sectors to develop their own plans on adaptation (Mersha & van Laerhoven, 2018). Ethiopia was also among the first countries to communicate its 'nationally determined contribution' to implement the Paris Agreement.

But it is the Climate Resilient Green Economy (CRGE) strategy that perhaps most strongly reflects the Government's high-level political leadership on climate change. This document, issued in 2011, sets out Ethiopia's goal to achieve carbon-neutral middle-income country status by 2025 (FDRE, 2011b). In this manner, the CRGE strategy puts climate change at the centre of Ethiopia's growth and development model, and is

closely tied to the country's first and second Growth and Transformation Plans (GTP-I and GTP-II) (FDRE, 2010, 2016). The strategy's emphasis on emission reductions (particularly leapfrogging to energy efficient technology and expanding energy generation from renewable sources) also sets Ethiopia apart from other low- and middle-income countries that have tended to focus domestic climate action on adaptation.

Jones & Carabine (2015) suggest that the heavier attention paid to mitigation reflects not only the government's foresight about emerging sources of climate finance for green growth, but also the top-down and politicised nature of the design of the CRGE vision and strategy. The National Adaptation Plan (NAP)—a process that was also undertaken under the auspices of the UNFCCC—corrects this imbalance by building on the CRGE strategy and past climate policies. Issued in May 2019, it is the latest climate-related policy put forth by the government and once again reflects Ethiopia's leadership on climate change at the international level since it is among the first countries to share such a plan. The NAP's objectives are to reduce vulnerability to the impacts of climate change by building adaptive capacity and resilience to enhance economic development, and to facilitate the integration of adaptation into new and existing policies, programmes and activities related to development planning at all levels and across different sectors (FDRE, 2019).

2.2.3 Leader on 'ASP'

The PSNP was not originally conceived as an adaptation programme. However, as climate change rose in the agenda of the Ethiopian government and within international development more broadly, it soon began to be considered as such (e.g. European Commission, (2015); House of Commons Environmental Audit Committee, (2011); Rodriguez Fortun (2017)). In fact, the PSNP features in both the CRGE strategy and the NAP as an important development intervention that could (and should) help achieve the country's carbon neutral, climate-resilient middle-income country aspiration. Having just entered its fifth phase of implementation in 2021, the PSNP is now officially branded an 'adaptive' safety net (FDRE, 2020b).

Aspects of the PSNP's design prior to PSNP-5 were already aligned with both adaptation and mitigation objectives. The provision of predictable transfers and credit, for instance, are (still) meant to strengthen households' resilience in the immediate and longer term by helping them to avoid distress sales of assets in the event of a drought, as well as accumulate productive assets and gradually move away from climate-sensitive livelihoods (Ulrichs et al., 2019; World Bank, 2013). As mentioned, some of the public works also involve activities related to the rehabilitation of degraded lands and the protection and management of watersheds, which can not only have carbon capture co-benefits but also improve agricultural yields by increasing access to small-scale irrigation (Wiseman, Van Domelen, & Coll-Black, 2012; Woolf, Solomon, & Lehmann, 2018).

The PSNP's integrated Risk Financing Mechanism (RFM), introduced in 2009, likewise made the programme known as 'adaptive' long before PSNP-5. This mechanism enables support to be rapidly scaled up—and in some cases, also scaled *out* to non-PSNP households—in the event of a shock. Contingency budgets equivalent to 20% of PSNP base programme cost are held at the regional and *woreda* levels (15% and 5%, respectively) to respond to low-level and unexpected transitory food insecurity, by temporarily providing additional transfers or employment through public works (Wiseman et al., 2012; World Bank, 2013). When a shock is too great to be managed by the contingency fund, the government's early warning system triggers the RFM. The RFM releases extra funds (received through emergency grants from the World Bank and other donors) to implement contingency plans developed at the *woreda* level, in close coordination with the country's broader humanitarian response (World Bank, 2013). This scalable characteristic of the safety net constitutes one of the PSNP's core principles, as outlined in its latest Programme Implementation Manual (FDRE, 2020b).

Finally, with a view to further enhancing climate change considerations in the PSNP, the government launched the Climate-Smart Initiative (CSI), through which a variety of climate-smart processes and approaches were developed and piloted across 212 watersheds in six PSNP regions between 2013 and 2015 (Lind et al., 2016). However, the

recommendations generated by the consortium-led[2] CSI to systematically integrate climate-smart approaches into the PSNP's planning, implementation and M&E structures (Lind et al., 2016) were not incorporated into PSNP-4 as intended. Nevertheless, a new European Commission-funded project (2018-2022) has followed on from the CSI, to mainstream climate smart planning and implementation approaches into the PSNP (CSM-PSNP) (DAI, 2022)[3]. It is likely this project informed PSNP-5's 'adaptive' design.

Importantly, the PSNP has come to be known as one of the first large-scale social protection programmes worldwide to have integrated climate change goals into its programming (Wiseman et al., 2012). Indeed, at the start of my PhD (2017), one could hardly read or talk about ASP without mention of the PSNP. There were few other programmes that drew attention as similarly large and 'concrete' examples of what the agenda could entail[4]. Ethiopia's experience in this area has had, and continues to have, important bearing on how the ASP concept and policy agenda gained popularity and will develop in years to come.

2.3 Data and methodology: Process and choices

I use a wide variety of data sources to approach my research questions. These include peer-reviewed and academic articles; Ethiopian Government documents (e.g. policies, reports, statements, intergovernmental communiqués); primary data from key informant interviews; and socioeconomic, climate, conflict and spatial data for Ethiopia. My first two papers use qualitative research methods (content, thematic and discourse analyses and case study approaches) and my third uses quantitative methods (descriptive statistics, spatial analysis and binary logit regression analysis). The software

[2] The CSI was implemented by a consortium of agencies under the leadership of CARE International (Lind et al., 2016).

[3] The CSM-PSNP is implemented by Ethiopia's Ministry of Agriculture. DAI provides technical assistance to the Ministry.

[4] These include the Mahatma National Rural Employment Scheme (MGNREGS) and the World Bank's Sahel Adaptive Social Protection Programme (SASPP). I provide a brief overview of these in Chapter 5.

I use to generate, analyse and/or present this data includes Scopus, Nvivo, Stata, R, and QGIS. Overall, I have approached my research inductively, refining my questions and research design not only as my exposure to the topic broadened, but also as I began gathering and finding patterns of interest in my data. Further detail on the methodological choices I made for each paper follows.

2.3.1 Paper 1 (Chapter 3)

My first paper is guided by Berrang-Ford et al. (2015)'s approach for systematically reviewing climate change adaptation research. The authors propose this approach to help "increase methodological transparency and rigour in synthesising and tracking adaptation research" (756). Indeed, systematic reviews involve answering a specific research question using pre-defined eligibility criteria for documents and explicitly outlined and reproducible methods (Berrang-Ford et al., 2015). A common criticism of such an approach is that they have been designed for quantitative research and follow a positivist approach to synthesising knowledge (*ibid*). However, Berrang-Ford et al. (2015) point out that when analysis of literature is guided by specified theoretical frameworks (i.e. adopting a realist approach to enquiry), systematic reviews do lend themselves well to interdisciplinary and methodologically diverse research.

I have chosen to apply this methodology in Paper 1 for various reasons. First, while I have studied literature on the broader social protection agenda to familiarise myself with the topic, this body and scope of this research is much too vast to sift through manually in search for articles considering climate change. Using defined inclusion and exclusion criteria to identify literature through a search engine like Scopus has provided a practical solution for overcoming this challenge. Second, it has allowed me to set useful boundaries for my study. For instance, I have chosen to limit my consideration of insurance in my review because: i) as noted earlier in Chapter 1, social insurance is a form of social protection that is more common in higher income countries; and ii) the topic of insurance to cope with climate risk already constitutes a standalone and widely studied area of research. Using keywords such as "developing [countries]" or "low income" in my search has helped to exclude articles on insurance that fall too far outside my review's scope. Third, the method has minimised my own bias: had I more arbitrarily

selected articles, authors or institutions that I already know are working on this topic could lead to their overrepresentation in my study. And fourth, the method depends on theory-driven analysis and is thus an appropriate choice for a study such as mine which extends beyond a descriptive literature review.

As noted in the paper, a limitation of this approach is that research not meeting the inclusion criteria but that is nonetheless relevant could be overlooked (this could, for instance, include studies that do not use the term 'climate change' but do consider weather-related shocks). I have therefore adopted a snowball approach to identify additional articles cited in the literature but that have not filtered through the search criteria. Ultimately, my study considered 31 articles and two book chapters, published between 2008 and 2019. This selection of research can be considered a representative 'proxy sample' of the literature on social protection and climate change adaptation.

Another limitation of this approach is that it only considers peer-reviewed literature. Much discussion around this topic, however, occurs in the policy space – i.e. non-academic commentaries and publications written by development agencies or non-governmental organisations (NGOs) could be important to take into account. I have therefore included grey literature from centres known to be working in this area that showed how thinking on 'adaptive social protection' is evolving. In the end, I found that many of these publications were by the same authors or institutions as the peer-reviewed articles, or that they shared similar conclusions or cross-referenced one another; this exercise has thus also helped triangulate my findings.

Finally, I have analysed the content of each article or publication in my sample by manually categorising articles (and passages within articles) within mutually exclusive, descriptive codes. (It is of course the case that many articles and passages within them fall into more than one code.) This has first involved reading papers with the following such questions in mind: *Is the article presenting new empirical evidence or presenting a perspective/argument?; What are the article's findings?; Are the article's conclusions in line with other articles in the review or are they contradictory/critical?; What is the geographical focus of the article?; Is the article supportive/neutral/cautious about the role of social protection in climate change adaptation?*. This exercise has then required

coding guided by my specified theory-based analytical framework (adapted from Béné, Wood, et al. (2012)): *Does this article focus on social protection's protective, preventive, promotive and/or transformative functions?; Is it concerned with how social protection can help individuals/households/communities absorb/cope with climate shocks, adapt to climate change, and/or transform structures that drive their vulnerability to climate change?*. The process of coding and analysis of qualitative data is necessarily very iterative – meaning that I have repeated my reading and analysis of each paper several times. Doing so each time has allowed me to synthesise the large number of ideas (i.e. codes) contained in the publications into a smaller number of broader themes that answer my research questions. As is often the case in writing up research based on such thematic analysis, my resulting themes are the titles of my paper's sub-sections (e.g. "Social protection's protective, preventive and promotive functions can enhance absorptive and adaptive capacity" (Section 2.4.1)). Together, these themes constitute the backbone of my paper's conclusions.

2.3.2 Paper 2 (Chapter 4, with supplementary material in Chapter 5)

The methods for my second paper have involved thematic and discourse analyses of primary in-depth interview data with key informants, and secondary, textual data contained in documents related to social protection and/or climate change policy in Ethiopia. For my interviews, I have targeted government employees, particularly from the Ethiopian Ministries of Agriculture and of Environment, multilateral development agency representatives, representatives of the donor community, external and in-country consultants, and members of civil society who are/have been involved in the development or implementation of climate change and/or social protection policy and action in Ethiopia. Likewise, the documents that I have sought constitute principally of external and internal government, civil society, donor reports related to the PSNP and/or climate change in Ethiopia. Identifying relevant documents has proven straightforward: national policies, strategies and plans are publicly available and easy to access, as are reports written by multilateral, donor or non-governmental institutions; those that are less known came up as part of the interview process and have been voluntarily shared by participants.

I began identifying potential interview participants using a purposive sampling approach[5] and leveraging my professional networks from the IIED and the LSE Grantham Research Institute on Climate Change and the Environment. I was also able to expand my network by participating in relevant conferences held in 2019 in Addis Ababa, namely the 13th international conference on Community-based Adaptation to Climate Change (1-4 April) and the African Climate Risks Conference (7-9 October). These networks have been particularly helpful for gaining access to relevant government representatives and in-country experts on the PSNP or Ethiopia's climate policy. Through these contacts I have furthermore been able to identify and get in touch with other relevant interviewees (enabling a process of snowball sampling). While this sampling strategy can be prone to omitted variable bias and selection bias, I have minimised this risk by also seeking advice about who key actors were from civil society representatives not directly involved with decision-making around the PSNP or the national climate policy. As such, I have been able to triangulate my interview data and assess its face validity with parties that are not susceptible to conflicts of interest, as well as with the documents that I have collected for my textual analysis.

In-depth interviews are a form of 'thick' data collection which seek to understand the motivations and intentions of actors-of-interest, interactions and relations between them, and uncover factors for how and why events have unfolded the way they did (and how/why they might have unfolded differently under different conditions) (Knott, 2017; Knott, Rao, Summers, & Teeger, 2022). In essence they constitute an extended conversation between researcher(s) and participant(s), taking anywhere between a highly structured or completely unstructured form (Knott et al., 2022). In line with the convention for a semi-structured interview approach, I had prepared a preliminary 'topic guide' to form the basis of my conversations (Appendix B.4). Once I began my interviews, I realised I needed to tailor my interview style and the degree to which I followed the topic guide to each participant, however, to let conversation flow more naturally. With certain key informants who tended to be more succinct in their responses, for instance, I followed the topic guide more closely and probed with follow-

[5] This sampling method involves recruiting interview participants who are the most relevant to the research topic (i.e. who will provide rich information and insights) (Knott et al., 2022).

up questions more frequently. With others, I felt that I was collecting richer data if I posed broader, open-ended questions related to my topic and let them answer in a free, uninterrupted manner.

I have transcribed my interview data myself as I found this to be an effective way of re-familiarising myself with the contents of each conversation. Following this, I have followed a similar thematic analysis approach as in Paper 1 (Chapter 3), coding my data iteratively (this time using NVivo software to keep my analysis organised) and subsequently into broader themes that would help answer my research questions. I have repeated this exercise with the documents that I had gathered. Such thematic analysis often precedes or is combined with discourse analysis, or can be thought of as an essential part of undertaking discourse analysis (Knott et al., 2022): thematic analysis is often done first to organise textual data and as such analyse what is actually said, i.e. what is *explicit* in the data; discourse analysis then focuses on what is communicated but not actually said, i.e. the taken-for-granted, *implicit* dimensions of textual data (Alejandro, 2018, 2020). In other words, thematic analysis has allowed me to get a sense of: *how and why the PSNP was established; which actors and institutions are/were involved; what was/is intended for the programme and how it has changed over time; what is meant by a 'climate-smart' PSNP; how is the government addressing climate change; what role for the PSNP within national climate policy; what do public works involve; how did these public works develop from past programmes;* among other such issues. In this manner, I have incorporated my data from the interviews and the documents in my analysis to answer the question of how, why and by whom the PSNP is increasingly considered to be an 'adaptive' social protection programme (I expand on this further in Chapter 5).

My research has followed an inductive process: the two prevalent climate narratives underpinning the need to 'climate-smart' the PSNP ('moral climate leadership' and 'green growth') that were revealed through my thematic analysis became the focus of my discourse analysis. My research questions have thus been refined to zoom in on how these narratives have been historically produced, and how they reinforce themselves in the context of the national climate change response. I have used the rich data from my interview transcripts and documents about the founding story of the PSNP, the history

of public workfare in Ethiopia, and the struggles of past and present political regimes to deliver on the promise of food security to uncover the socio-historical contexts of these climate narratives. However, discourse analysis necessarily also requires incorporating knowledge outside the text in consideration (Alejandro, 2018). As such, I have also relied on scholarly literature on Ethiopia's political history and policies around development and food security to complement my data. Doing this has had the added benefit of facilitating the triangulation of the results of my thematic analysis.

Specific examples of how I have coded my data and how I have undertaken my discourse analysis can be found in Chapter 5.

2.3.3 Paper 3 (Chapter 6)

Finally, my third paper has relied on secondary quantitative and spatial data and a binary logit regression analysis method. The most challenging aspect of this study has been my search for appropriate, usable, georeferenced data. The Ethiopian Central Statistics Agency (CSA) is known among independent researchers and research institutions to be wary about sharing current socioeconomic data. The International Food Policy Research Institute – which has been tasked by the Government to carry out impact evaluations of the PSNP – is also known to hold the most granular and up-to-date information about the PSNP, its coverage and its participants, but these datasets are not in the public domain either. Relevant, fairly recent (e.g. from surveys conducted in 2018) and publicly available, household-level socioeconomic data have been made available by the World Bank, notably through the Living Standards Measurement Study (LSMS). However, once I explored this dataset, I deemed that it would not suit my purpose, namely because households are not precisely georeferenced (to preserve anonymity) and because the number of those reporting to have received support from the PSNP is low relative to the total number of observations represented in the data (which would have affected the validity of my results).

Another unforeseen challenge has been that Ethiopian administrative boundaries are not fixed and therefore, numerous shapefiles exist reflecting different boundaries for each level. For example, I have been able to obtain *woreda*-level coverage data for PSNP-4 from 2017 and for PSNP-5 from 2021. Just by looking at each map side-by-side,

I am able to tell that coverage has changed slightly in 2021. However, I am unable to use both maps together in a *woreda*-level analysis comparing coverage between the two phases of the programme without some form of data manipulation, which would compromise the validity of my results. Ultimately, I have decided to use the 2021 coverage map because, besides being more recent, it provides a snapshot of coverage *at the start* of the implementation of PSNP-5, which, unlike previous phases of the programme, has been branded as 'adaptive' (FDRE, 2020b). Another reason for choosing this coverage data over 2017 coverage data is more practical: I have obtained 2021 coverage data through a member of the team at the World Bank that carried out the institution's most recent Poverty Assessment for Ethiopia (World Bank, 2020). This means that in addition to information on PSNP coverage by *woreda*, I have *woreda*-level poverty headcount data which corresponds to the same shapefiles (i.e. the same administrative boundaries). It is important for me to include these poverty data as a control variable in my analysis (given that the PSNP is a programme aiming to reduce poverty).

My process of selecting, obtaining and/or constructing other data in my study – namely, those relating to drought, flooding, conflict, and population – is detailed extensively in Chapter 6, Section 6.3 ('Methodology and data sources'). Essentially, I have aggregated granular spatial data to the *woreda*-level (e.g. by obtaining values corresponding to *woreda* centroids, or counting georeferenced points within *woreda* boundaries), using the administrative boundary shapefiles corresponding to the 2021 PSNP coverage and poverty headcount data.

With regards to the method for analysing my data, binary logit regression models are an appropriate choice given that PSNP coverage (my response variable) is dichotomous. A disadvantage of logit models is that results are interpreted in terms of odds ratios, which are not very intuitive. Other methods, notably linear probability models, could also have been used to calculate the marginal effect of each independent variable. However, linear probability models pose several challenges if used to predict the value of dichotomous response variables: i) standard assumptions around error terms cannot be satisfied because they are not normally distributed; ii) standard assumption of homoscedasticity can likewise not be satisfied; and iii) they can generate meaningless

results (i.e. probability values of less than 0 or greater than 1) (Kuha & Lauderdale, 2017). It is possible to overcome challenges, but since I have not received formal training on how to do this, I am more confident using binary logit models for my analysis. In my results section (Section 6.4), I have calculated fitted probabilities by keeping my variables fixed at specified values to facilitate the interpretation of my results.

2.4 Overcoming COVID-19 disruptions

The COVID-19 pandemic, the general anxiety we all felt about the new virus and falling ill, as well as the associated international travel restrictions and lockdowns – caused a substantial amount of disruption to my PhD research. It especially affected the data collection and research design for Papers 2 (Chapter 3-4) and 3 (Chapter 5). I had just completed my second visit to Ethiopia by the time the first lockdown (in the UK) occurred, and had been due to travel there again over the summer of 2020 (June-July). This third and final field visit would have completed my data collection for Paper 2 and served as the field work component of my research for Paper 3. As I explain below, the research questions and design for both these papers have had to be reformulated to adapt to these unforeseen circumstances.

Reformulation of research strategy

Paper 2: The initial study design consisted of a political economy analysis of climate-smart social protection in Ethiopia. Through semi-structured interviews, field visits and policy documents, I had intended to map the actors and institutions involved in promoting this emerging agenda, understand their interests and relationships, as well as the conflicts, winners and losers in this policy-making process. I had planned on using Tanner & Allouche (2011)'s political economy analysis framework to guide my analysis.

With the third field visit cancelled, I reformulated my research to focus on how Ethiopia's historical context and development narratives shape the climate-smart social protection agenda. Doing this allowed me to shift into a deeper discourse analysis of readily available policy documents, supplemented with the interview data I had already gathered (rather than relying primarily on the interviews, as had been planned). This

required me to familiarise myself with historical politics in Ethiopia and engage with new bodies of literature to strengthen my critical analysis, while also being very sensitive to ongoing political struggles in the country (and the major escalation of conflict and violence that began in November 2021).

Paper 3: I had initially planned to collaborate with an external organisation to collect data for a study on gendered outcomes of climate-smart social protection in Ethiopia. The partner organisation was essential for gaining access to key local government informants and national statistics data. The window of opportunity for collaboration closed due to the partner organisation having to re-think their own work to deal with pandemic-related disruptions. Moreover, the need to substantively reformulate and complete Paper 2 significantly delayed the start of work on a 'Plan B' for Paper 3. Initially, I had planned to include data already collected for Paper 2 to write Paper 3 (so there would have been a seamless connection between the two). The need to reformulate my research design for both papers, however, meant that my third paper, while still on the topic of social protection in Ethiopia, would have to sit more separately from the second. Importantly, the research questions and design for Paper 3 were reformulated to eliminate my dependence on in-country primary data collection. This strategy proved essential especially as worldwide lockdowns and travel restrictions continued to be in place through most of 2021, making planning for further fieldwork untenable.

I therefore re-designed my research for Paper 3 to focus on the relationship between social protection, climate-related hazards, and conflict events. I explored publicly available quantitative data, such as: the World Bank LSMS (as just mentioned); the Armed Conflict Location & Event Data Project (ACLED); the International Disasters Database (EM-DAT); and Climate Hazards group InfraRed Precipitation with Station data (CHIRPS); among others. I also drew on my existing professional networks to search for datasets that are not in the public domain, especially through the World Bank, which, as reflected in the previous sub-section, proved invaluable for answering my new research question. Importantly, I took the opportunity to employ the quantitative and spatial data analysis methods I had obtained a basic skillset for in my first year of my PhD, through formal and informal courses offered by the LSE Departments of

Methodology and Geography and Environment. I had to refresh my knowledge of this, as well as gain further analytical and software skills (especially on QGIS) through rigorous self-study. Whilst I felt confident in my abilities, I did expect a steep learning curve ahead of me and benefited from the extra time accorded to me by the LSE to help overcome such COVID-19 disruptions.

2.5 Positionality

My reflections about positionality relate particularly to the qualitative research I conducted for Paper 2 (Chapters 3-4) in Ethiopia.

At the beginning of my PhD, I was asked by many about my geographical focus – and specifically why I had not chosen my own country of nationality (Bhutan) as a case study. My main reason for this was that I wanted to step outside of my comfort zone and saw value in learning about contexts less familiar to me. Moreover, through multiple years of working closely with LDC Governments within the UNFCCC process (including from Bhutan and Ethiopia), I came to adopt a strong 'LDC Group' identity that other members of the negotiating bloc shared – in that sense, and as had been the case in my professional work, I felt that even though the focus of my studies would be on Ethiopia, I would continue undertaking research *within* the Group, and ultimately *for* the Group.

However, when I began conducting interviews in Addis Ababa, particularly with Government officials, I became very aware of the fact that as a non-Ethiopian, non-African student from a UK-based university, I *was* of course an outsider. The perception of me as 'Western', or perhaps 'donor' or 'external consultant' made me most uncomfortable as this suggested a potentially uneven power relation between me and my interviewees (e.g. if I were a donor representative) or that I was someone whose research is purely extractive (a common and justified criticism of the work of international consultants). Conscious of this, I found myself reminding key informants that I was a student and/or often sharing my own experiences from Bhutan (pointing to their similarity or difference to those I have had or heard about in Ethiopia). This was

effective in putting both them and myself more at ease during the interviews, as well as a way of reaffirming my position as a person who is also from a 'LDC'.

Moreover, because I was at the time still affiliated with the IIED, I knew I would sometimes be thought to be conducting research in my IIED capacity, rather than as a PhD student. Although I did make clear that I was not there in my capacity as IIED staff, I did still feel the need to be careful about managing (and importantly, not damaging) relationships with my key informants, many of whom were engaged in the climate change space and knew me or my colleagues; in fact, I was able to contact a number of my interviewees precisely because of my IIED network. This was less of an issue while I was collecting data, and more so in the analysis and write-up stages. Indeed, my preference has been to use more nuanced language in articulating my critique and formulating my conclusions, although this was done also in recognition that my perspectives and understanding of the PSNP and how it is implemented and received by Ethiopians will always remain those of an outsider.

The three trips I made to Ethiopia (one of which also included time spent in the SNNP region for work outside the PhD) certainly helped me to gain a better understanding of the country, its institutions, and its diverse population and cultures. Regular interaction with people who were not participating in my research – e.g. local people at cafés and restaurants, flatmates, landlords and friends of friends – have been very useful to help me better interpret what is 'left unsaid' or to read between the lines of written policies. Such insights are important to have, especially in recognition that the policy documents I have examined, as well as the interviews I conducted, were all in English, not Amharic or another Ethiopian language. Although the people I spoke to and the available documents used in my analysis all spoke or were written in excellent English (presumably because they are situated in a development cooperation context), the majority of the time it was clear that I possessed greater fluency of the language; such language limitations could certainly have impacted interview responses or led to a misinterpretation of what I heard or have read in my analysis.

Overall, I enjoyed my time spent in Ethiopia and I am very grateful to all those whom I interacted with for their time and kindness.

CHAPTER 3

Integrating social protection and climate change adaptation: A critical review of literature and an evolving policy agenda

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Abstract

Policymakers are increasingly interested in how social protection is evolving in the context of climate change. This paper assesses what the literature tells us about its role in facilitating adaptation in lower income countries. It also explores how far thinking on an integrated 'adaptive social protection' (ASP) agenda considers transforming socioeconomic and political contexts where vulnerability to climate change originates. I find that research to date focuses on how instruments such as cash or asset transfers can protect the poor from shocks and stresses, prevent households from falling into poverty as a result of climate change, and promote climate-resilient livelihoods. However, the literature also cautions that such interventions must go beyond helping households to cope against shocks over short time horizons, and should enable the adoption of forward-looking strategies for long-lasting adaptation. Much less attention is given to whether social protection measures might have transformative effects for recipients. This is despite the fact that the earliest proponents of ASP favoured a rights-based approach to social protection to address issues of inequality and marginalisation which are at the root of poverty and vulnerability to climate change. Although the role of social protection should not be overstated, it holds promise as a tool for building adaptive capacity. However, the potential of ASP to be truly transformative for its recipients by tackling the structural causes of vulnerability to climate change is not yet harnessed by policymakers. This constitutes a missed opportunity for the agenda to deliver on the international community's promise to 'leave no one behind'.

3.1 Introduction

Social protection plays a prominent part in delivering the international community's promise to 'leave no one behind' (ILO, 2017; United Nations, 2015b). Lowder et al. (2017) estimate that 2.1 billion people in developing countries, or one-third of the population in the developing world, are covered by some form of social protection today. Although social insurance and labour market protection also qualify as social protection, safety nets (or social assistance) are the predominant form of social protection in lower income countries (Barrientos, 2017; Lowder et al., 2017). According to the World Bank (2018), developing and transition countries spend on average 1.5% of GDP on social safety nets, even in sub-Saharan Africa where programmes are in large part donor-funded.

Climate change poses new challenges for social protection. It threatens to not only hamper or reverse progress on poverty reduction and development, but also increase pressure on already highly stretched programmes as more people are pushed into poverty (Béné, Devereux, et al., 2012; Hallegatte et al., 2016; Olsson et al., 2014). However, climate change is also among likely 'drivers of change' that will influence the future trajectory and shape of an ever-growing social protection agenda (Devereux, Roelen, & Ulrichs, 2016). Indeed, research on whether social protection can support the poor adapt to climate change has been emerging in recent years, capturing the interest of policymakers and adaptation practitioners.

Social protection has traditionally focused on strengthening economic, human and social capital for stimulating economic growth, yet advocates of a 'rights-based' agenda have stressed that it should also address issues of social justice and marginalisation (Devereux et al., 2016; Gentilini & Omamo, 2011). They argue that social protection has the transformative potential to help re-dress structural inequalities, which are embedded in socio-political contexts that lie at the root of poverty (Devereux et al., 2016; Merrien, 2013). Similarly, a growing body of research underlines the importance of adopting transformative pathways for adaptation that challenge the political, institutional and socioeconomic conditions through which vulnerability to climate change is produced (Eriksen et al., 2015; K. O'Brien et al., 2007; Pelling et al., 2015).

Social protection thus holds promise as a tool for adaptation, and moreover, one that aligns with critical perspectives on adaptation and development processes.

Based on the above, this paper considers the following two questions:

i. What does the literature say about social protection's role in facilitating adaptation to climate change in lower income countries?

ii. To what extent does current thinking on 'adaptive social protection (ASP)' consider how it can help transform the socio-political contexts where vulnerability to climate change originates?

Section 2.2 introduces the two main perspectives on social protection in development circles and their similarities with adaptation policy debates, in order to understand the context within which the integrated 'adaptive social protection' (ASP) agenda is proposed. Section 2.3 presents the review methodology. Section 2.4 surveys the literature on how social protection might already contribute to climate change adaptation, which often serves as the basis for promoting ASP. Section 2.5 then considers how ideas around ASP are evolving, and Section 2.6 discusses how much attention is paid in this literature to the potential for ASP to realise transformative adaptation. The final section offers some conclusions.

3.2 Context: Approaches to social protection and parallels with adaptation policy debates

3.2.1 Growth-oriented and rights-based approaches to social protection

There has been a wide range of perspectives over the last two decades on how social protection (in the context of poverty alleviation) is best approached, "ranging from macroeconomic stabiliser to humanitarian responses, from risk management to promoting social justice" (Gentilini & Omamo, 2011: 329). Devereux et al. (2016) group these into two broad categories: those characterised by a growth-oriented approach and those following a rights-based approach.

The growth-oriented approach views social protection as an essential *instrument* for poverty reduction and economic development (Devereux et al., 2016). The World Bank, which is largely responsible for social protection's rapid rise in the development policy agenda, continues to be an extremely influential actor within this space. Advocating for an expansion of safety nets to 'springboards' in the early 2000s, it introduced a 'social risk management' framework for delivering social protection (Holzmann & Kozel, 2007; World Bank, 2001). As its name suggests, the framework emphasises managing the risks faced by the poor against income and consumption shocks. In addition, it focuses on enabling the poor to engage in risky, though potentially high return activities or investments to support their gradual, long-term move out of poverty (Holzmann & Kozel, 2007; World Bank, 2001).

The starting point of the rights-based approach is that all members of society are entitled to a minimum level of social protection, the provision of which should be institutionalised within national policy and legislative frameworks (Devereux et al., 2016; ILO, 2017). Whilst this approach implies a top-down provision of rights to passive recipients, Devereux & Sabates-Wheeler (2004) go further to champion a 'transformative social protection' framework that brings together rights, basic needs and empowerment goals (see Box 1). In their view, the dominant growth-oriented or risk management approach led by the World Bank has had a limited focus on *economic* protection against short-run shocks and livelihood risks and is based on too narrow a conceptualisation of vulnerability; vulnerability is understood only in terms of income, consumption and assets. This, they argue, overlooks the important structural factors that affect vulnerability and chronic poverty, such as inequality and marginalisation, which are embedded in socio-political contexts. They therefore add a 'transformative' function for social protection, referring to "the pursuit of policies that integrate individuals equally into society, allowing everyone to take advantage of the benefits of growth, and enabling excluded or marginalised groups to claim their rights" (Sabates-Wheeler & Devereux, 2007: 24).

The growth-oriented (or risk management) and rights-based, transformative approaches to social protection are not necessarily at odds. The additional element proposed by Devereux & Sabates-Wheeler (2004) expands the scope and purpose of the

agenda to actively reduce (rather than perpetuate) structural dimensions of vulnerability alongside economic ones (see Box 1), and provide support to the chronic poor as well as the transitory poor.

Box 3.1: Four functions of social protection ('3P+T')

There is no universally agreed definition for the term 'social protection'. It is defined in overlapping ways by a growing set of actors (Brunori & O'Reilly, 2010; Norton, Conway, & Foster, 2001; Standing, 2007). Sabates-Wheeler & Devereux (2007) propose one definition that captures the range of functions that social protection can serve:

> Social protection describes all initiatives that transfer income or assets to the poor, protect the vulnerable against livelihood risks, and enhance the social status and rights of the marginalised; with the overall objectives of extending the benefits of economic growth and reducing the economic or social vulnerability of poor, vulnerable and marginalised people (25).

The authors propose a typology of (non-mutually exclusive) functions that social protection delivers, referred to as '3P+T':

- **Protection**: providing direct relief to individuals or households in a current state of deprivation;
- **Prevention:** protecting those who are vulnerable to falling into deprivation as a result of a shock;
- **Promotion:** enhancing income and capabilities in order to reduce people's future susceptibility to deprivation;
- **Transformation:** addressing issues of equity and structural vulnerability to poverty.

(Devereux & Sabates-Wheeler, 2004)

The three 'Ps' correspond neatly to the growth-oriented approach to social protection. The transformative function is integral to the framework the authors themselves propose for rights-based social protection.

3.2.2 Climate change adaptation and transformation

The call for a more holistic conceptualisation of vulnerability is echoed in climate change adaptation literature. The first generation of adaptation policy and actions tended to interpret vulnerability to climate change too narrowly, by focusing on technocratic and managerial responses to biophysical hazards (K. O'Brien et al., 2007; Ribot, 2011; Watts, 2015). Inspired by critical adaptation scholarship, more recent 'pro-poor' initiatives

sought to correct this by taking into account how non-climatic stressors intersect with climate-related ones to shape vulnerability, and placing special emphasis on the micro-level risks to household livelihoods, assets and wellbeing (Adger, 2006; Heltberg et al., 2009; Sherman et al., 2016). This has meant that the political, institutional and socioeconomic factors that affect relational vulnerability—i.e. why certain people are more vulnerable than others to the same hazard—are today receiving greater attention in adaptation policy circles.

Yet, regardless of whether they are technocratic or 'pro-poor', there is growing concern that adaptation efforts in the context of development continue to be characterised by time-bound, donor-driven projects, which only offer short-term palliatives to risk (Kates, Travis, & Wilbanks, 2012; K. O'Brien, 2012; Pelling, 2010; Pelling et al., 2015). They operate within existing social and political contexts, overlooking how these structures themselves can create and perpetuate entrenched inequalities and uneven power relations that are at the root of vulnerability to climate change (Eriksen et al., 2015; Olsson et al., 2014; Sherman et al., 2016; St. Clair, 2010; Tschakert, van Oort, St. Clair, & LaMadrid, 2013). Because they avoid disturbing the status quo, these efforts can only facilitate 'incremental' adjustments to new risks—and the limits to such incremental adaptation are fast being reached (Kates et al., 2012; K. O'Brien, 2012; Pelling, 2010; Pelling et al., 2015).

A growing body of research argues that 'transformation' must therefore be a necessary part of a society's long-term response to climate change. Transformation connotes a systemic shift from one major adaptation strategy to another, one that challenges the existing ecological, socioeconomic or institutional structures which underpin current adaptation (and development) choices (Folke et al., 2010; Kates et al., 2012; Manuel-Navarrete & Pelling, 2015; K. O'Brien, 2012; Rickards, 2013). Whilst measures that do not disturb the stability or integrity of existing structures are not unimportant, Pelling et al. (2015) argue that harnessing the potential for transformation broadens policy options for adaptation. In fact, the cumulative effect of incremental adaptation efforts can itself be transformative—but limiting actions to incremental adjustments might also delay or hinder transformation, and in worse cases, lead to the adoption of strategies

that are mal-adaptive in the long-run (Kates et al., 2012; Pelling et al., 2015; Tanner et al., 2015).

There are thus clear synergies between advocates of transformative social protection and those calling for transformation in the context of climate change adaptation. Both see a need to broaden the scope of their respective agendas to tackle the root causes of poverty and vulnerability. In particular, they question how the socio-political contexts within which social protection and adaptation actions are implemented might themselves be reinforcing entrenched power structures that lead to differentiated impacts of shocks within society. An integrated 'adaptive social protection' (ASP) agenda that embraces a rights-based, transformative approach to social protection by actively aiming to re-dress structural inequalities therefore has strong potential to open pathways for transformative adaptation.

3.2. Methods

The analysis of peer-reviewed papers is guided by Berrang-Ford et al. (2015)'s framework for reviewing adaptation research. While the literature on social protection is vast – reflecting its prominent role in development – much less has been published on social protection specifically in the context of adaptation.

3.3.1 Search strategy

The first step in scoping the literature was to enter a keyword search string (see Box 2) into Scopus. This generated 79 results on social protection and adaptation, including 68 articles, two books, and nine book chapters. Analysis of abstracts allowed for immediate exclusion of 24 articles and three book chapters because they were not relevant to the research topic – i.e. they use the terms 'social protection(s)' or 'safety nets' in the broader sense, not specifically in reference to the formal, public policy responses or initiatives described in Box 1; and/or they are not relevant to climate change.

Box 3.2: Keyword search terms entered in Scopus

(TITLE-ABS-KEY ("social protection" OR "safety net" OR "social assistance" OR "cash transfer") AND TITLE-ABS-KEY (climate) AND TITLE-ABS-KEY ("adaptation" OR "resilience") AND TITLE-ABS-KEY (developing OR development OR "low income" OR "poor" OR "poverty"))

To avoid duplication, the papers by Mitchell & Tanner (2008) and Béné (2011) were not considered because they are introductions to journal special issues containing articles that meet the inclusion criteria. An article by Linnerooth-Bayer & Mechler (2006) was also deemed not relevant because it is concerned with the international climate policy landscape, which has evolved significantly since its publication.

The remaining texts still varied in terms of the degree of attention they gave to social protection and adaptation. The inclusion criteria were therefore refined and only literature for which the main argument or research question dealt with social protection in the context of adaptation was considered (i.e. the topic features in at least one standalone section, if not integrated into the body of the text).

A limitation of this approach to reviewing literature, in particular with regard to the selection of keyword search terms used, is that relevant research which considers, for instance, weather-related shocks without making the link to longer term climate change, could have been missed. Adopting a snowball approach to capture any additional articles cited in the literature that did not appear in the keyword search results helped to rectify this. Ultimately, 31 articles and two book chapters, published between 2008 and 2019 are reviewed in this paper. Although this still does not make the review exhaustive, this selection of literature can be considered a substantive 'proxy sample' (Berrang-Ford et al., 2015) of the research that exists on the topic of interest.

The peer-reviewed papers are used to gauge what we know so far about the role of social protection in facilitating adaptation. It is the case, however, that much discussion around an integrated, 'ASP' agenda is generated through non-peer-reviewed commentaries and publications issued by non-governmental organisations and development agencies. Therefore, in assessing how thinking on ASP is evolving, grey literature has been taken into account from centres known to be working in this area.

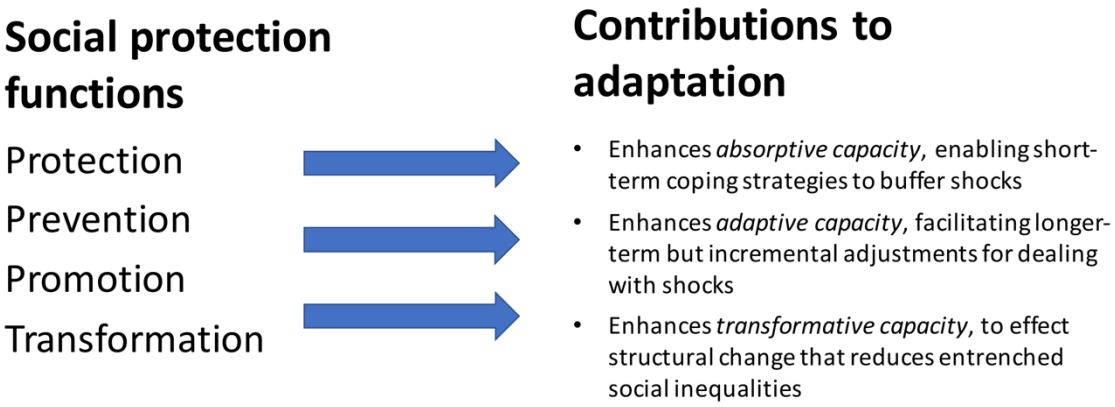
Grey literature presenting arguments already covered by the peer-reviewed research (many of which were written by the same authors) were not considered.

3.3.2 Analytical framework

To analyse the transformative potential of social protection as presented in current literature, I employ a framework from resilience thinking. Béné, Wood, Newsham, & Davies (2012) adopt a similar view as advocates of transformation in arguing that the long-term resilience of a socio-ecological system (or individual, household, community, etc.) arises from a combination of three critical dimensions: absorptive capacity, adaptive capacity, and transformative capacity. Conceptually, one can think of (i) absorptive capacity as enabling short-term coping strategies to buffer shocks; (ii) adaptive capacity as facilitating longer-term but incremental adjustments which do not require major qualitative change in a system's structure or functioning; and (iii) transformative capacity as paving the way for more drastic, system-level change to ensure its long-term 'survival' (Béné, Wood, et al., 2012). The authors usefully combine this conceptual framework for resilience with Devereux & Sabates-Wheeler (2004)'s 3P+T typology for social protection to evaluate if select social protection programmes contribute to strengthening the resilience of their beneficiaries.

Critics in the climate change community have voiced that where resilience thinking falls short, however, is in its sometimes limited consideration of empowerment and human agency (Bahadur & Tanner, 2014; Béné et al., 2014; Cannon & Müller-Mahn, 2010; Tanner et al., 2015). This is particularly noticeable in the way 'transformation' can be interpreted in resilience discourse, as a shift that is predominantly technical or technological in nature and not necessarily one that disturbs the status quo with regard to existing power structures. Therefore, in applying Béné et al. (2012)'s combined (resilience and 3P+T) analytical framework to this review, I use the concept in the political sense, to align with critical adaptation literature (see Figure 2.1). Transformative capacity is the ability of individuals or households, or the social protection system itself to effect structural change that reduces entrenched social inequalities at the root of vulnerability to climate change.

Figure 2.1: Framework to analyse the contribution of social protection in building absorptive, adaptive and transformative capacity to respond to climate change



Source: Adapted from Béné et al. (2012) and Ulrichs & Slater (2016).

3.4 Is social protection already contributing to adaptation outcomes?

3.4.1 Social protection's protective, preventive and promotive functions can enhance absorptive and adaptive capacity

There is general agreement that the agenda's protective function helps households to cope with climate-related hazards and stresses, which is, although not sufficient, a prerequisite for building adaptive capacity. At the most basic level, regular cash or in-kind transfers provided by food security programmes such as Ethiopia's Productive Safety Net Programme (PSNP) and Kenya's Hunger Safety Net Programme enable the poor to meet their most acute and immediate needs and access extra resources in the event of climate-related shocks (Godfrey-Wood, 2011; Ulrichs et al., 2019). Likewise, a study on public works programmes finds that the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) and associated scheme in Andhra Pradesh provide 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 & Flower, 2017). Finally, Börner, Shively, Wunder, & Wyman (2015)'s analysis of 8,000 rural households in 25 developing

countries shows that access to rural credit facilities is associated with enhanced asset-based strategies to cope with shocks that affect a large proportion of the population at the same time (i.e. covariate shocks).

When the agenda's preventive and promotive functions are also harnessed, social protection can enhance recipients' adaptive capacity. A number of articles focus on how instruments such as cash transfers, starter packs and microloans help households build their asset base, which in turn facilitates forward-looking planning and climate-resilient livelihoods (Godfrey-Wood, 2011; Hossain & Rahman, 2018; Siddiqi, 2011; Ulrichs et al., 2019). Hossain & Rahman (2018), for instance, show that cash and asset transfers are essential for increasing the adaptive capacity of the urban poor in Bangladesh, as they provide households with a capital base to engage in new income generating activities—especially when combined with other forms of support such as training. Others focus more specifically on the role of social protection for managing risk. Hansen et al. (2018) find that instruments such as safety nets and insurance help smallholder farmers overcome risk-related barriers to the adoption of more productive and climate-resilient agricultural technology and practices. Furthermore, index-based insurance and risk-reducing technology play complementary risk-sharing roles: insurance can cover the residual risks from severe climate-related shocks that technologies alone cannot handle, while technologies reduce the risks that insurance must cover, and therefore also its cost (Hansen et al., 2018).

Social protection likewise enhances the absorptive and adaptive capacities of households confronted with climate-related migration. Protective instruments such as cash and asset transfers and public workfare are vital immediate-term safety nets for households at risk of forced displacement or distress migration (i.e. a maladaptive coping strategy) following rapid-onset climate impacts (Johnson & Krishnamurthy, 2010; Schwan & Yu, 2018). But with additional preventive and promotive objectives, social protection can also facilitate voluntary resettlement as a forward-looking and long-term adaptation strategy, by subsidising transaction costs of economic migration as well as helping recipients to (re)build their livelihoods and social networks once resettled (Johnson & Krishnamurthy, 2010; Schwan & Yu, 2018). Public employment schemes moreover support recovery and reconstruction in the aftermath of disasters, and the

creation of resilient infrastructure and other public assets that can reduce the impact of future shocks (Godfrey-Wood & Flower, 2017; Schwan & Yu, 2018). However, ensuring that interventions effectively target the households which face the economic, social and legal barriers preventing them from considering migration as an adaptation strategy is a major challenge (Johnson & Krishnamurthy, 2010).

3.4.2 Limited attention is given to enhancing transformative capacity through rights-based social protection

Rights-based perspectives on social protection feature less in the reviewed literature. Godfrey-Wood & Flower (2017) are among the few to show the value of transformative social protection objectives for inclusive and long-term adaptation. They identify MGNREGA as a rights-based safety net because it guarantees 100 days of wage employment per year (for unskilled manual work) to all rural Indians who opt in, unconditional on the availability of funding. Furthermore, the Act encourages the participation of women on equal terms to men and includes provisions for preventing discrimination on the basis of gender and caste. The authors find evidence in the literature that these characteristics have partially shifted power relations between labourers and local elites as well as empowered women within households. Although the impact the scheme varies substantially across states depending on how committed local governments are to its implementation, Godfrey-Wood & Flower (2017) argue MGNREGA has the transformative potential to challenge power structures that contribute to vulnerability and poverty.

3.4.3 The role of social protection should not be overstated; it can also be a barrier to long-term adaptation

Some research cautions against over-stating social protection's contribution to climate change adaptation. While evaluations have concluded that Ethiopia's PSNP has positive effects on food security (e.g. Hoddinott et al. (2011)), Béné, Devereux, et al. (2012) show that the programme is not robust enough to protect participating households completely against impacts of severe shocks (particularly droughts). Likewise, Haug & Wold (2017) find that although Malawi's 2005-2015 Farm Input Support Programme advanced food security by improving agricultural productivity, the effects of 2015

flooding and 2016 drought show that more effective measures are required to reduce long-term vulnerability to shocks and stresses. Lemos et al. (2016)'s analysis of 476 rural households' capacity to respond to droughts in northeast Brazil also renders similar conclusions. Although they confirm a positive association between income and vulnerability reduction, they find that on their own, poverty reduction measures (in this case, Brazil's social protection programme, *Bolsa Família*) are insufficient for managing drought-related food insecurity. Such efforts should be complemented with interventions that specifically aim to reduce climate risks (such as improving access to irrigation) (Lemos et al., 2016).

Other studies suggest that when social protection interventions facilitate short-term coping against climate impacts, it is at the expense of building longer term adaptive (and transformative) capacity. For instance, Weldegebriel & Prowse (2013) find that Ethiopia's PSNP does protect households from adverse effects of climate change in the short term, but it has not enabled households to diversify their livelihoods to productive, non-farm activities which would enhance resilience in the long-term. They observe an increase in off-farm income among households who receive transfers, but this income is associated with activities involving natural resource extraction (e.g. firewood collection, charcoal production, and gathering of wild fruits). The authors interpret this finding as a negative adaptation strategy because it perpetuates a dependence on natural resources, which has implications for the environment and longer-term agricultural productivity (Weldegebriel & Prowse, 2013). Mersha & van Laerhoven (2018)'s findings moreover suggest that whilst the creation of community assets through the public works component increases non-PSNP households' options for autonomous adaptation (thereby increasing their resilience to climate change), it constrains those of PSNP households because of the labour and time investments the public works require. This negative effect is also more pronounced for women, as a consequence of both the PSNP's prioritisation of female-headed households in its targeting, and local gender norms and power asymmetries (Mersha & van Laerhoven, 2018).

Concerns about social protection leading to mal-adaptation in the long-term are raised in studies about insurance in particular, not least because insurance protects less well

against slow-onset climate impacts and tends to overlook non-climatic dimensions of vulnerability (Heltberg et al., 2009). Panda (2013)'s study on crop insurance in two districts in Western Odisha, India also shows that small and marginal farmers often lack access to crop insurance (e.g. because of an absence of property rights to land), or awareness and understanding of the concepts and procedures to enable them to make an informed decision about whether they should acquire insurance. When they do have access, the probability that they shift from traditional to cash crop cultivation (mono-culture) increases, which paradoxically makes farmers more at risk of total crop failure (Panda, 2013). Moreover, Akter (2012)'s review of research on the potential of weather microinsurance in Bangladesh highlights that insurance does not provide a safety net against climate risks for the poor due to low demand, poor coverage and lack of commercial viability. In fact, vulnerability of the poor is likely to increase if funding from post-disaster relief and rehabilitation is redirected to subsidise weather micro-insurance premiums for better-off households (Akter, 2012). It is important to note, however, that whilst insurance falls under the umbrella of social protection, its contribution to adaptation is widely studied as an area of research in its own right— this review therefore does not capture the full extent of this research.

These articles do not necessarily reject the idea that social protection contributes to adaptation. Rather, they suggest that current systems or certain instruments are not yet fit to deal with new challenges associated with climate change. They especially need to go beyond supporting short-term coping strategies and, in the case of insurance, ensure that inequalities are not exacerbated as a result of uneven access. In any case, social protection would not be a panacea; it would only ever form a part of the adaptation toolkit. In fact, the research that finds a positive role for social protection in supporting adaptation also points to its limitations. For instance, in their analysis of research on MGNREGA, Godfrey-Wood & Flower (2017) emphasise that results of the implementation of the scheme vary substantially across Indian states, depending on factors such as political commitment and government capacity.

3.5 'Adaptive social protection': an evolving agenda

The literature covered thus far has focused on how existing social protection programmes might already contribute to adaptation outcomes. Much of this research also recommends more deliberate integration of the two agendas. In this regard, the concept of 'ASP' has gained traction in both peer-reviewed literature and policy circles.

3.5.1 Adaptive, climate-responsive and shock-responsive social protection: Overlapping or divergent concepts?

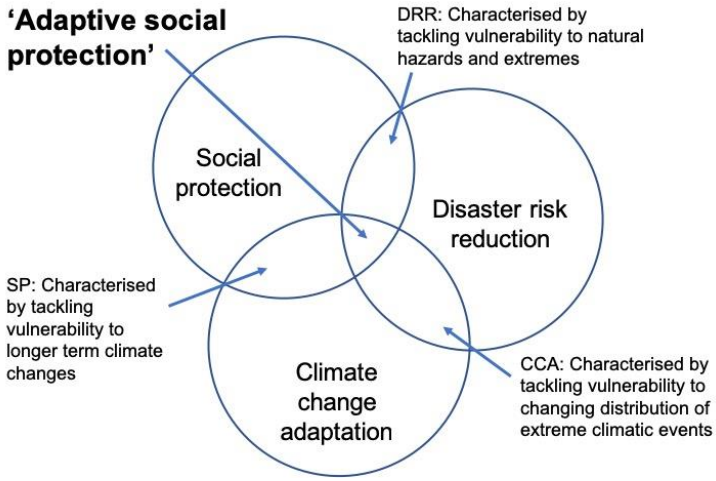
The terms 'adaptive', 'climate-responsive' and 'shock-responsive' social protection are often used interchangeably. Yet, important nuances exist between the original 'ASP' framework and those corresponding to 'climate-responsive' and 'shock-responsive' social protection. These divergences partly reflect whether social protection is being approached from a growth-oriented or a rights-based, transformative perspective.

ASP's rights-based roots

First to propose the idea and coin the term 'ASP' were Davies et al. (2008) from IDS. The authors explore the opportunities for linking social protection, adaptation and disaster risk reduction (DRR) through this concept, to enhance agriculture-dependent rural communities' resilience to climate-related shocks and stresses (see Figure 2.2). Based on a review of concepts, policies and evidence across the three communities of practice, they argue that adaptation and DRR can contribute to making social protection systems more robust and dynamic in the face of current and future shocks and stresses. At the same time, social protection can help adaptation and DRR better address the structural root causes of poverty and vulnerability to weather extremes, in efforts to strengthen or transform the productive livelihoods of the poor. In this manner, the authors place importance on the transformative aspect of their colleagues Sabates-Wheeler & Devereux (2007)'s social protection framework. It is precisely for this reason that Bee et al. (2013) highlight the potential of ASP to advance gender justice in adaptation policy and programmes, which they argue have tended to overlook women as active participants in household and community adaptation.

Davies et al. (2013) build the case for ASP with a study of 124 programmes and projects designed to enhance the resilience of agriculture-based livelihoods of households in South Asia. They find little integration of social protection, DRR and adaptation objectives. Yet, those programmes that do have elements of all three workstreams in their objectives focus on preventive rather than reactive actions (Davies et al., 2013). Moreover, they embrace the transformative function of social protection with an emphasis on reaching and empowering the poorest members of society and addressing issues of land or employment rights (Davies et al., 2013). Davies et al. (2013) argue that this consideration to vulnerability reduction over time horizons that stretch far beyond the intervention period could have a long-lasting impact on the livelihoods of the rural households covered by the programmes.

Figure 2.2: Davies, Guenther, Leavy, Mitchell, & Tanner (2009)'s framework for ASP



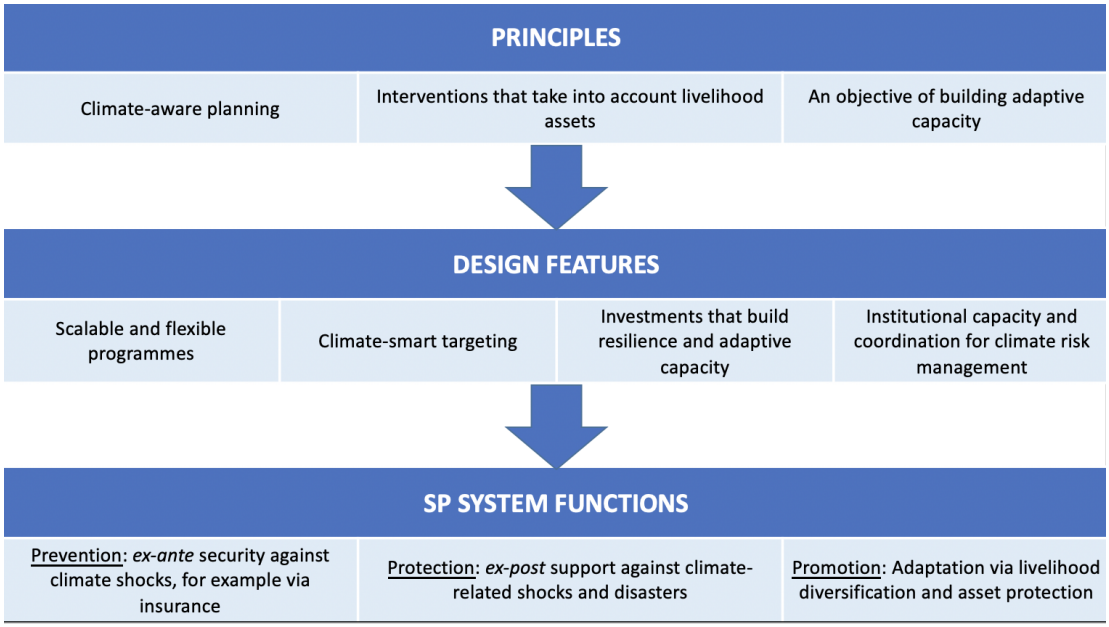
Climate-responsive social protection's social risk management roots

Heltberg et al. (2009) approach an integrated framework for adaptation and social protection from the growth-oriented, Social Risk Management perspective. They identify a variety of social protection instruments as 'no-regrets' policy options to reduce poor households' vulnerability to climate change. For instance, they recommend building country capacity to deliver cash transfers and public works programmes in the aftermath of disasters and emphasise the importance of contingency arrangements for scaling up safety nets at short notice. Kuriakose et al. (2013) subsequently pick up on

these conclusions and propose a framework for 'climate-responsive social protection'. This framework is based on three principles: (i) 'climate-aware planning', (ii) understanding how assets and livelihood strategies are affected by climate change, and (iii) enhancing local collaborative efforts among actors (Kuriakose et al., 2013). They are reflected in the design features that the authors propose for climate-responsive social protection programmes (see Figure 2.3 and Table 2.1 in Section 2.5.2).

As before, the 3P+T and risk management approaches to social protection applied to adaptation are not contradictory. Kuriakose et al. (2013) argue that the differences between the two are for the most part semantic: "ahead of shocks, risks can be mitigated, thereby preventing poverty; e*x-post*, social protection can help people cope, thereby protecting against the worst consequences of poverty; and in the long-term, social protection can promote enhanced livelihood opportunities, which include an inherent risk-reduction element" (22). The authors however do not include the transformative element of Sabates-Wheeler & Devereux (2007)'s social protection definition in their framework, though they write that empowering and building the capacity of local institutions can ensure greater inclusivity and equity in delivering social protection (Kuriakose et al., 2013).

Figure 2.3: Kuriakose et al. (2013)'s framework for climate-responsive social protection



Shock-responsive social protection's humanitarian roots

Finally, the concept of Shock Responsive Social Protection (SRSP), although not limited to addressing climate-related shocks, bears resemblance to ASP. It brings together key elements of social protection (which OPM (2017) considers to be "a risk management tool for households and individuals" (ii)), disaster risk management and humanitarian assistance. Here, the distinction between covariate shocks – which affect a large proportion of the population simultaneously, and idiosyncratic shocks – such as those related to life-course events (e.g. job loss, illness, death) affecting a single individual or household, is key (C. O'Brien et al., 2018). The primary concern of SRSP is bridging the gap between humanitarian and development aid to respond to major covariate shocks (Costella, Bachofen, & Marcondes, 2016; C. O'Brien et al., 2018). It aims to align or integrate emergency responses with existing social protection systems and programmes, which typically protect livelihoods from the impact of idiosyncratic shocks (Costella et al., 2016; C. O'Brien et al., 2018).

Because of SRSP's emphasis on providing short-term relief in the event of humanitarian crises rather than on building long-term resilience, Béné et al. (2018) consider SRSP to be distinct from ASP. Whilst SRSP builds households' absorptive capacity by providing them with transfers that buffer the direct impact of shocks, ASP (or climate-responsive social protection) extends beyond this objective and also builds longer-term adaptive, and potentially transformative, capacity (Béné et al., 2018). Nevertheless, shock-responsiveness is inherent in ASP (see following section).

3.5.2 Design features for 'adapting' social protection to climate change

Regardless of whether the qualifier 'adaptive', 'climate-responsive' or 'shock-responsive' is used, what features are needed to adapt programmes and systems to a growing number of environmental shocks and stresses has been the primary concern of research on an integrated agenda. Béné et al. (2018), for instance, identify five principles for ASP, which are not unlike the key options C. O'Brien et al. (2018) present for shock-responsive social protection. Recommendations in these two papers and the broader literature converge around the areas of: strengthening climate information systems to plan for and deliver social protection; scaling up the level of support to recipients as well

as the number of people programmes and systems can cover; putting in place appropriate finance mechanisms to deliver social protection at scale; and enhancing institutional capacity and coordination among the wide range of stakeholders involved in the delivery of social protection (see Table 2.1).

Table 3.1: Design features for 'adapting' social protection programmes and systems to climate change

Climate-informed planning and implementation	Social protection systems need to be informed by regularly updated climate projections of impacts on different geographies and across temporal scales, in order to implement well-planned, timely and targeted responses (Béné et al., 2018; Conway & Schipper, 2011; Costella et al., 2017; Kuriakose et al., 2013; McCord, 2013; C. O'Brien et al., 2018; Siegel, Gatsinzi, & Kettlewell, 2011; Ulrichs et al., 2019). Forecasts can also be used to trigger actions before an event that puts people at risk occurs (Costella et al., 2017; Siegel et al., 2011; Wilkinson et al., 2018). At the institutional level, greater integration of real-time climate information can help ensure that social protection programmes' operations are not disrupted and are financially prepared to absorb additional beneficiaries adversely affected by climate change (Conway & Schipper, 2011; Mesquita & Bursztyn, 2016, 2017). Public work programmes (PWPs) like India's MGNREGS and Ethiopia's PSNP, should take into account of climate risks in planning for public works, and can also support the development of community assets that increase collective resilience to climate-related shocks and stresses (Adam, 2015; Agrawal et al., 2019; Kaur et al., 2019).
Scalable support and coverage	Social protection programmes need to be scalable in relation to who receives support and how much support is provided. They should be able to expand 'vertically' by increasing the level or length of support provided to its beneficiaries during times of need (Béné et al., 2018; Hallegatte et al., 2016; C. O'Brien et al., 2018; World Bank, 2018b). Likewise, they should be able to expand 'horizontally' by covering non-regular recipients of social protection to account for new vulnerabilities created by climate change (Béné et al., 2018; Carter & Janzen, 2018; Coirolo, Commins, Haque, & Pierce, 2013; Conway & Schipper, 2011; Davies et al., 2008; Dulal & Shah, 2014; Godfrey-Wood & Flower, 2017; Hallegatte et al., 2016; Heltberg et al., 2009; Janzen, Jensen, & Mude, 2016; Nguyen & Wodon, 2015; C. O'Brien et al., 2018; Schwan & Yu, 2018; Siddiqi, 2011). Because social protection is often targeted towards households falling below a set poverty line, the importance of treating poverty as a dynamic phenomenon heavily impacted by climate change is key in this regard— programmes should account for the fact that during their lifetime, people can repeatedly move in and out of defined poverty lines as a result of a variety of shocks and stresses (Bee et al., 2013; Carter & Janzen, 2018; Godfrey-Wood & Flower, 2017; Hallegatte et al., 2016; Janzen et al., 2016)

Reserve and forecast-based finance	Along with strengthening links to climate information and early warning systems, finance for enabling social protection systems to address climate-related shocks and stresses dynamically and efficiently needs to be scaled up (Costella et al., 2017; Heltberg et al., 2009; Kuriakose et al., 2013; C. O'Brien et al., 2018; Ulrichs et al., 2019). Social protection systems should consider establishing contingency funds to allow for resources to be disbursed in a timely manner and at adequate levels during emergencies (Béné et al., 2018; Conway & Schipper, 2011; C. O'Brien et al., 2018; Slater & Bhuvanendra., 2014; Ulrichs et al., 2019; Ziegler, 2016). Forecast-based financing can also enhance early warning systems by facilitating planned anticipatory action using pre-defined triggers and supported by ear-marked funding (Costella et al., 2017). The effectiveness of such a mechanism depends on robust climate information systems, as well as the capacity of social protection programmes to identify and pre-register beneficiaries, and implement the pre-agreed actions before the anticipated shock occurs (Costella et al., 2017).
Strengthened institutional capacity and coordination	Rather than developing new ASP programmes or systems, policymakers should build on the existing infrastructure and enhancing institutional coordination among the sectors and actors already working in these areas (Béné et al., 2018; Davies et al., 2013, 2008; Kuriakose et al., 2013; C. O'Brien et al., 2018; Oxford Policy Management, 2017; Slater & Bhuvanendra., 2014; Slater, Mccord, & Mathers, 2014; Ulrichs & Slater, 2016; Ziegler, 2016). Building institutional capacity—including to maintain comprehensive and regularly updated social registries to support the transitory poor affected by climate change, allow for portability of transfers for recipients who wish to move, and ensure good governance and accountability mechanisms—is equally essential for building flexible and scalable ASP systems (Costella et al., 2017; Gentilini, 2015; Hallegatte et al., 2016; Siegel et al., 2011; Wilkinson et al., 2018; Ziegler, 2016). However, this requires additional financial, technical and human resources which countries often do not have access to (Béné et al., 2018).

3.6 How far does the ASP agenda realise opportunities for transformative adaptation?

Despite initial conceptual differences between adaptive, climate-responsive or shock responsive social protection, ASP has come to refer generally to the application of social protection to climate-related shocks and stresses (Devereux, 2016; World Bank, 2018b). As the reviewed literature shows, the protective, preventive and promotive functions of social protection play an important role in addressing non-climatic, socioeconomic drivers of vulnerability to climate change and reducing risks to household livelihoods and assets in particular. The qualifier 'adaptive' is used when social protection's contribution to adaptation outcomes is further strengthened, primarily through

technocratic adjustments to existing systems to manage local, biophysical risks associated with climate change in planning and implementation. But as the agenda evolves, the transformative objectives of the original ASP concept are increasingly forgotten. Little is said about its potential for empowering recipients and re-dressing structural inequalities that are the social root causes of vulnerability to climate change.

For instance, in the World Bank (2018)'s view, the ASP agenda has crystallised around two areas of focus: building households' long-term resilience before shocks occur, and increasing the capability of social protection systems to respond after they do. In 2014, it launched a 5-year Programme in the Sahel to test this understanding of the concept at scale. The programme aims 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, 2017). Béné et al. (2018) offer initial reflections and empirical lessons emerging from their independent evaluation of the programme. In line with the literature, they find that the programme does aim to make existing social protection systems scalable, enable rapid response, and expand targeting to those vulnerable to transitory poverty as a result of climate shocks. Moreover, it has the potential to enable beneficiaries to move beyond adopting only short-term coping strategies when faced with shocks, and support them to engage in longer-term adaptive strategies. However, although the authors qualify the underlying principles of the programme as 'transformative' because they require changes in the institutional and operational design of social protection systems, whether it has transformative effects around empowerment and equity as understood by Sabates-Wheeler & Devereux (2007) is not considered (Béné et al., 2018). Fostering such transformation for recipients is not an explicit objective of the programme.

Critical adaptation scholarship questions how the very structures that underpin development and adaptation choices can perpetuate entrenched inequalities and be barriers to deep transformative change (Eriksen et al., 2015; Folke et al., 2010; Kates et al., 2012; Manuel-Navarrete & Pelling, 2015; K. O'Brien, 2012; Pelling et al., 2015). Currently, the design features that are proposed to make social protection 'adaptive' rely on an undisturbed institutional and political status quo—one which is characterised

by nationally-owned systems that rely heavily on the support of bilateral donors and multilateral agencies (Lowder et al., 2017; World Bank, 2018b). Therefore, the ASP agenda (as it is currently evolving) might not be able to be truly transformative for its recipients unless it challenges the very socio-political contexts within which it operates.

In addition, it is worth noting that although the ASP concept was introduced a decade ago and has generated positive response from policymakers, clear evidence of its uptake (as in the case of the World Bank's Sahel ASP programme) and evaluation remains thin. Rather, existing aspects of programmes are often used as examples of – or re-labelled – ASP, such as the frequently-referenced Risk Financing Mechanism and public works component of Ethiopia's PSNP. This is indeed in line with general agreement among practitioners early on that ASP approaches need not 're-invent the wheel' (Davies et al., 2008; World Bank, 2011). However, it might equally reflect attempts by governments to tap into emerging sources of climate finance for social protection, or by donors and programme implementers to demonstrate integration of climate change considerations into existing social protection systems. This further raises questions about ASP's ability to challenge the status quo when so little change is needed for current programmes to be called 'adaptive'.

Besides the transaction costs that deep transformation implies, a major barrier to social transformation are the powerful interests that maintain current structures as they are (Béné et al., 2014; Folke, 2006; Kates et al., 2012; K. O'Brien, 2012). As Béné et al. (2018) note, programmes that disturb even just the institutional status quo are not always welcome, and therefore careful assessments of the political economy of changes to existing systems are required to avoid outright rejection. Nevertheless, a concerted effort should be made to re-insert the rights-based, transformative lens into the ASP concept as the agenda continues to develop and gain traction among policymakers and practitioners.

This means, as Ulrichs et al. (2019) emphasise, not losing sight of the need to address the underlying causes of vulnerability to climate hazards through social protection. A first step in implementing transformative ASP should therefore be to improve the effectiveness of social protection delivery (e.g. ensuring timely, reliable and adequate

transfers), because as the literature shows, 'getting the basics right' can also contribute to increasing households' capacity to absorb and adapt to climate risks (Ulrichs et al., 2019). A singular and premature focus on introducing technocratic and managerial changes to existing programmes to make them 'adaptive' could over-burden currently imperfect programmes and systems, at the expense of their core development objectives (Agrawal et al., 2019; Ulrichs et al., 2019). Focusing too heavily on such efforts likewise perpetuates a narrow interpretation of vulnerability to climate change as arising solely from direct exposure to climate hazards (K. O'Brien et al., 2007). At the same time, further research is needed to seek better understanding of the perspectives and interests of intended ASP beneficiaries in particular, and how their voices are being silenced or heard in the process of shaping and implementing this evolving agenda (Eriksen et al., 2015; Sherman et al., 2016; Tanner & Allouche, 2011).

3.7 Conclusion

The purpose of this study was to gauge what the literature says about social protection's current and potential role in facilitating adaptation in lower income countries. It also sought to assess the extent to which current thinking on an integrated adaptation and social protection agenda—increasingly referred to as 'ASP'—can help transform the socio-political contexts where vulnerability to climate change originates. In doing so, it contextualised the reviewed literature within the existing debate over whether social protection should be approached from a growth-oriented stand-point or a rights-based, transformative one.

The financially dominant approach to delivering social protection has been a growth-oriented one, traditionally targeting the members of society who fall or are at risk of falling below defined poverty lines. In making the case for why and how it could contribute to climate change adaptation, much of the reviewed literature reflects this perspective. It focuses on how social protection protects its recipients from climate impacts by building their capacity to absorb and cope with shocks and stresses. It also shows how social protection builds adaptive capacity, preventing households from

falling into poverty and promoting climate-resilient livelihoods and community assets (through public works) to reduce future susceptibility to shocks. The literature has also cautioned that the potential of social protection should not be overstated, however. On its own, social protection is not enough and must be complemented with other adaptation measures. Care must also be taken to ensure the agenda does not promote short-term coping strategies that lock households into livelihoods that are not resilient to climate impacts in the long-run. Moreover, diverting attention and resources towards insurance—which tends not to reach the poorest members of society—risks exacerbating inequalities.

This latter point speaks to critiques of the growth-oriented approach to social protection. Sabates-Wheeler & Devereux (2007) argue that in addition to the '3 Ps', social protection should serve a transformative function. By this, they mean it should actively help to re-dress structural inequalities and uneven power relations, which are embedded in socio-political contexts and are at the root of poverty and vulnerability. However, much less attention has been paid in the literature to how adopting such a rights-based, transformative approach to social protection might facilitate inclusive and long-term adaptation.

In coining the term 'ASP' to describe an agenda that integrates social protection and adaptation, Davies et al. (2013, 2008) embraced the transformative aspect of Sabates-Wheeler & Devereux (2007)'s framework. In parallel, however, similar ideas developed around 'climate-responsive' and 'shock responsive' social protection from a social risk management perspective. While all three frameworks recommend similar design features for making systems 'adaptive' or responsive to climate change and other shocks, the conceptual differences between them reflect whether social protection is being approached from a growth-oriented or rights-based perspective. Yet, the qualifier 'adaptive' is increasingly used to describe an agenda that brings the technocratic ideas behind all three frameworks together, at the expense of its transformative roots.

Sabates-Wheeler & Devereux (2007)'s call to address the root causes of vulnerability and poverty echoes those championing transformative adaptation. From the evidence presented in the literature, there is no doubt that adapting the protective, preventive

and promotive functions of social protection to climate contexts holds promise as a tool for coping with and adapting to climate shocks. Combining social protection's poverty reduction goals with those of adaptation takes into account important non-climatic factors that affect vulnerability, together with exposure to climate hazards. Making social protection 'technically' adaptive could further open opportunities for under-funded programmes to tap into climate finance.

However, too narrow a focus on biophysical risks and economic protection risks perpetuating structural inequalities. Before championing the adoption of technocratic changes to make existing systems and programmes 'adaptive', the ASP agenda should ensure that they are first effectively delivering on their original poverty and vulnerability reduction objectives (i.e. ensuring that they incorporate a transformative aim and outcome). At the same time, ASP initiatives need to be sensitive to power relations, and the often considerable barriers to achieving transformative outcomes. This requires ASP to actively challenge the socio-political status quo as a rights-based, transformative approach to social protection demands. Otherwise, they will continue to operate within the systems and power relations where both poverty and vulnerability to climate change originate.

Challenging how societies themselves create and perpetuate inequality is certainly difficult. Indeed, the practice of labelling or re-packaging unchanged aspects of existing programmes as 'adaptive' reflects how easily the status quo is maintained. Moreover, the lack of concrete evidence or recommendations in climate research around how to foster transformative adaptation (Sherman et al., 2016) suggests that further research is required to work through how framings of transformation map across the relevant adaptation and ASP literatures, and how these are playing out where implementation is underway. Nevertheless, the potential for ASP to be transformative for recipients should not be ignored. This would be a missed opportunity for an agenda that is still in the process of evolving to catalyse inclusive and long-lasting reduction in poverty and vulnerability to climate change.

CHAPTER 4

Climate discourses as barriers to rights-based adaptive social protection: How historical politics shape Ethiopia's climate-smart safety net

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This publication credits Professor Declan Conway as a co-author for his role in supervising and reviewing my research. I was responsible for the paper's conceptualisation, methodology, investigation, analysis, and writing (including original draft preparation, review and editing).

Abstract

A rights-based approach to 'adaptive social protection' holds promise as a policy measure to address structural dimensions of vulnerability to climate change such as inequality and marginalisation, yet it has been failing to gain traction against production and growth-oriented interventions. Through the lens of Ethiopia's flagship Productive Safety Net Programme (PSNP), I trace the role of climate discourses in impeding progress towards socially transformative outcomes, despite the importance of social protection for building resilience. I argue that intertwining narratives of moral leadership and green growth associated with Ethiopia's national climate strategy shape how the PSNP is rendered 'climate-smart'. These narratives, however, are embedded within politics that have historically underpinned the country's drive for modernisation and growth-oriented policies, particularly in dealing with food insecurity. Like pre-existing narratives on development and the environment, they rationalise the presence of a strong central State and its control over natural resources and rural livelihoods. The PSNP is thus conditioned to favour technocratic, productivist approaches to adapting to climate change that help reproduce, rather than challenge the entrenched politics at the root of vulnerability. Ultimately, this case study demonstrates how climate discourses risk diluting core rights-based dimensions of social protection, contradicting efforts to address the structural dimensions of vulnerability to climate change.

4.1 Introduction

Ethiopia's Productive Safety Net Programme (PSNP) is the second largest social protection programme in sub-Saharan Africa. It was conceived of in the early 2000s to address recurrent food crises associated with seasonal droughts and reduce the country's dependence on humanitarian relief in this process. Due to an environmental rehabilitation focus in its public works component, however, the PSNP has begun attracting attention as "the largest climate change adaptation programme in Africa" (European Commission, 2015). Government efforts to maximise the PSNP's 'climate-smart potential' have followed, as part of a wider goal to implement the country's much-applauded Climate Resilient Green Economy (CRGE) strategy.

Because climate change exacerbates existing societal inequalities, a rights-based approach to social protection that challenges uneven power structures can be transformative for marginalised rural communities facing increasing climate risks. This paper argues that discourses supporting the integration of climate change considerations into social protection are deeply political, however, and can be barriers to such social transformation. In the case of Ethiopia, narratives of moral leadership and green growth associated with the CRGE are shaping the evolution of the 'climate-smart' PSNP. Yet, these narratives represent a continuation of politics that have historically governed the country's development and environment priorities, and legitimised a strong central State's control over natural resources and a large, multi-ethnic, dispersed population. Efforts to 'climate-smart' the PSNP consequently reinforce the programme's technocratic, productivist orientation, reproducing – rather than challenging – the political status quo. Overall, this case study offers a cautionary lesson on the risk of diluting core rights-based dimensions of social protection to support climate discourses, and thus contradicting efforts to address the structural dimensions of vulnerability to climate change.

The rest of this paper is structured as follows. Section 3.2 provides a conceptual introduction to growth- and rights-based approaches to social protection, together with an overview of the PSNP and my methods for data collection and analysis. Section 3.3 foregrounds Ethiopia's recent political history to better understand the socio-historical

context underpinning the country's development and climate narratives. Section 3.4 examines the role of the PSNP in the Government's efforts to recast Ethiopia as a global leader on climate change, shedding its past image of a famine-stricken country. Section 3.5 then argues that entrenched narratives of population pressure on the environment further justify a highly technocratic approach to rendering the PSNP 'climate-smart'. Conclusions are offered in Section 3.6.

4.2 Social protection in a changing climate

4.2.1 Growth-oriented and rights-based approaches to social protection

Social protection has played a prominent role in international development over the past three decades (World Bank, 2018b). The term broadly describes public policy measures aiming to protect people at risk of falling into poverty or vulnerability from doing so at any point in their life, and lift them out of these situations when they do (Norton et al., 2001). Social safety net programmes – the predominant form of social protection in lower income countries – involve direct and regular cash or in-kind transfers to their participants (World Bank, 2018a). Although these transfers are sometimes conditional on the fulfilment of a specified action or engagement in public works, such programmes do not depend on any financial contribution from their participants.

Safety nets are typically approached from what Devereux et al. (2016) would describe as a 'growth-oriented' perspective, which considers social protection to be an *instrument* for poverty reduction and economic growth. Indeed, besides providing a cushion against livelihood shocks, safety net programmes often seek to support participants in taking risks, making investments, and thus becoming more productive members of society who can contribute to economic growth (Holzmann & Kozel, 2007). In this manner, they align with neoliberal models of development and are often supported by institutions like the World Bank. A limitation of such a growth-oriented approach, however, is its narrow focus on *economic* protection against income, consumption or asset-related shocks (Sabates-Wheeler & Devereux, 2007). As Sabates-

Wheeler and Devereux (2007) argue, it treats vulnerability as an exogenous factor to be managed – "a characteristic of a person or group, an event affecting a person or group, or a stage in a person's lifecycle" (23) – rather than as emerging from and being embedded within the socio-political context.

A rights-based approach to social protection, on the other hand, considers social protection to be a basic human right, which everyone should be entitled to make claims to through institutionalised national policy frameworks (Devereux et al., 2016). Such an approach to social protection can furthermore point to and challenge the power relations and structures that marginalise certain groups within societies and render them more vulnerable to poverty than others, because it promotes a redistribution of wealth and opportunities and views social inclusion, cohesion and empowerment as essential for lasting poverty reduction (Sabates-Wheeler & Devereux, 2007). In fact, whilst the growth-oriented and rights-based approaches to social protection are not mutually exclusive, the latter's social transformation objectives emerged out of critiques that a singularly productivist, growth-oriented framing cannot adequately address root causes of persistent and multidimensional poverty, such as inequality and marginalisation (Gentilini & Omamo, 2011; Sabates-Wheeler & Devereux, 2007).

Beyond providing *economic* protection, a rights-based approach to *social* protection thus extends to "the pursuit of policies that integrate individuals equally into society, allowing everyone to take advantage of the benefits of growth, and enabling excluded or marginalised groups to claim their rights," (Sabates-Wheeler & Devereux, 2007: 24). School feeding schemes, for instance, contribute to economic growth and productivity as well as to social equity by stabilising food consumption and enhancing access to education for poor and social excluded children, Sabates-Wheeler and Devereux (2007) write. Transformative elements of social protection might also include actions that are complementary to resource transfers, which enable people to access their rights to livelihood enhancing assets—for example, support to trade unions, minimum wage legislation, anti-discrimination campaigns, or efforts to challenge intra-household division of resource ownership, access and use (Devereux & Sabates-Wheeler, 2004).

Critical adaptation scholars have long highlighted how pre-existing socio-political and institutional contexts similarly shape vulnerability to climate change, yet are left undisturbed by overwhelmingly managerial and technocratic adaptation efforts (Eriksen et al., 2015, 2021; Lemos, Boyd, Tompkins, Osbahr, & Liverman, 2007; Mikulewicz, 2019, 2020; Nightingale, 2017; K. O'Brien et al., 2007; Paprocki, 2018, 2019a; Pelling et al., 2015; Watts, 2015). Such project-driven, time-bound interventions often only facilitate incremental adjustments directed towards biophysical hazards; not only does this approach poorly align with the longer time horizons of current and future climate variability and change, but it also risks perpetuating, redistributing or creating new vulnerability stemming from present social inequalities (Conway & Mustelin, 2014; Eriksen et al., 2021; Kates et al., 2012; K. O'Brien, 2012; Park et al., 2012; Pelling et al., 2015). The emerging 'adaptive social protection' (ASP) agenda, if it is approached from a rights-based perspective, thus holds promise as a policy measure that addresses some of these shortcomings (Tenzing, 2020). In fact, when Davies et al. (2009) introduced the concept, they specifically intended ASP to extend beyond reducing people's exposure to climate-related shocks and stresses, towards addressing structural constraints around poverty and climate vulnerability through social protection. This meant concentrating on transforming livelihoods rather than reinforcing coping mechanisms, emphasising autonomy and empowerment in addition to economic productivity for building resilience, and taking into account the changing nature of shocks and stresses (Davies et al., 2009). Yet, as interest in ASP grows, the agenda is increasingly limited to technical adjustments to existing programmes for managing climate risks, such as integrating climate information for informing how much, to whom and when support should be provided (Tenzing, 2020). Meanwhile, the opportunity presented by climate change for social protection to advance justice and equity – which the IPCC recognises as core aspects of climate-resilient development pathways (Olsson et al., 2014) – is overlooked.

4.2.2 Frontrunner on adaptive social protection? Case selection and methods

Established in 2005, the PSNP is a long-running safety net programme managed by Ethiopia's Ministry of Agriculture. Given its size, longevity and how embedded it is within federal and regional government structures, it is unlikely to be dissolved if political support for the programme were to change suddenly. In fact, it has continued to grow and evolve over the years, notably by building in a contingency mechanism in 2009 for rapidly expanding the support it provides if a major drought or other shock is forecasted (Wiseman et al., 2012). For its fifth phase of implementation (2021-2025), the PSNP has been costed at USD 2,284 million (World Bank, 2021). Although it receives most of its funding from bilateral and multilateral sources (with the World Bank leading the donor coordination team), this figure includes a substantial contribution of USD 590 million in cash and in-kind by the Government of Ethiopia itself—a sure sign of its commitment to the programme.

The PSNP serves approximately 8 million people across rural Ethiopia (World Bank, 2021). It seeks to prevent households from having to deplete their assets during times of need, as well as create community assets to strengthen collective resilience to shocks, particularly those related to drought (FDRE, 2014b). Support has been provided primarily through three different channels. The first is a workfare component, which covers approximately 80% of PSNP participants. Here, able-bodied adults engage in labour-intensive public works for six months of the year, in exchange for cash or food transfers. The second applies to households without adult labour capacity which receive transfers throughout the year under the 'direct-support' component, with no hard conditions attached. Through the third, 'livelihoods' component, eligible households can access agricultural credit to help build their asset base, strengthen their livelihoods, and eventually 'graduate' out of the programme. As such, the PSNP is primarily an economic growth-oriented programme that supports its participants in becoming 'productive' members of society.

Besides being considered a bellwether on social protection among low-income countries, Ethiopia has been hailed for putting climate change at the centre of its

development model since the early 2010s. Accordingly, the government has made a concerted effort in recent years to integrate climate change considerations into Ethiopia's PSNP, among other flagship programmes. This work began in 2013 with the 'Climate Smart Initiative' (CSI), a pilot project funded by the UK Department for International Development and implemented over two years by a consortium of international NGOs. Then came 'Climate-Smart Mainstreaming of the PSNP' (CSM-PSNP), a follow-up programme funded by the European Commission and implemented by the Ministry of Agriculture over the 2017-2020 period. These highlighted the untapped role of the PSNP in the country's climate response. Although it was not conceived as such, today, the Government refers to the PSNP as a "key response mechanism to climate change" (FDRE, 2020: 41).

There is little to suggest that the PSNP is shedding its growth-oriented approach as it 'adapts' to climate change; yet, a rights-based alternative for a 'climate-smart' PSNP is not out of reach. In 2014 – almost a decade following the establishment of the PSNP – the Federal Government adopted its first National Social Protection Policy (NSPP). Whilst the PSNP was initially treated as a temporary 'stopgap' for dealing with food insecurity (Lavers, 2019), the NSPP for the first time gives it permanence as a mechanism through which social welfare more broadly is upheld in the country (FDRE, 2014a). Indeed, the focus of the Policy extends beyond "taking measures of enhancing knowledge, skill, and employment opportunities of citizens to increase their incomes and asset building capabilities" (i.e. to support economic growth), to "[protecting] citizens from exclusion, [ensuring] their rights and needs by reducing the vulnerability to risk that emanates from economic and social imbalances" (FDRE, 2014a, p.29). Those it prioritises for support include children, women, people with disabilities, the elderly, the chronically ill, the unemployed, and segments of society which face violence and abuse, among others (FDRE, 2014a). In this manner, it recognises that vulnerability in Ethiopia has structural roots— i.e., that marginalisation based on gender, age, ethnicity, health, disability and employment status is prevalent in the country. Further structural drivers of vulnerability exist in Ethiopian society that are not addressed by the Policy— notably, those arising from landlessness and land tenure insecurity (Lavers, 2013; Rahmato, 2009, 2018), which are particularly relevant to this paper. Nevertheless, the

PSNP, which, under the NSPP, also has a clear role in protecting those exposed to natural and humanmade calamities from falling into extreme poverty (FDRE, 2014a), does indeed have a solid policy foundation for embracing a rights-based approach to adaptive social protection. Following such an approach, a 'climate-smart' PSNP could take on an active role in redressing social inequalities, for example, by expanding coverage across the country, providing more support for targeting of households (and assessment thereof) based on more contextual understandings of vulnerability, and taking into account intra-household differences with regard to access and control over resources. As I build the case for in this paper – it could moreover give PSNP participants greater autonomy over livelihood choices by placing far less importance on participation in public works to receive support. So far, however, the Ministry of Labour and Social Affairs that houses the NSSP has not been involved in efforts to 'climate-smart' the PSNP.

This paper argues that efforts to re-frame the PSNP as an adaptive, climate-smart programme instead reinforce its productivist orientation, which hinder its potential to be transformative. My analysis draws on 45 official documents including Government of Ethiopia policies, reports and statements, intergovernmental communiqués, and relevant outputs from the country's engagement with bilateral and multilateral partners in the areas of sustainable development, social protection or climate change. This is supplemented with data from 34 key informant (semi-structured) interviews with representatives from Government, donor institutions, multilateral organisations and national and international civil society, conducted over three visits to Addis Ababa between March 2019 and February 2020 as well as in London, UK, and Washington D.C., USA[6]. My study also benefitted from past experience within UN climate change negotiations between 2014 and 2018, engaging closely with delegates from Ethiopia, among other low-income countries. I approached my research inductively, narrowing my focus as data collection progressed onto the pre-existing narratives surrounding the PSNP's establishment and its evolution as a 'climate-smart' programme. I used thematic coding to gauge how the PSNP is being described as or made 'climate-smart' by the

[6] See Appendix for key informant interview dates and descriptors.

various stakeholders involved in shaping this agenda, then employed a discourse analysis approach to situate these efforts in their socio-historical context and shed light onto the politics that underpin these choices (Alejandro, 2018, 2020).

A growing body of literature considers the PSNP's contribution to poverty reduction, food security and resilience in Ethiopia in the context of climate change (Béné, Devereux, et al., 2012; Conway & Schipper, 2011; Dasgupta & Robinson, 2021; Mersha & van Laerhoven, 2018; Norton et al., 2020; Ulrichs & Slater, 2016; Ulrichs et al., 2019; Weldegebriel & Prowse, 2013; Woolf et al., 2018). In terms of the safety net's impact on livelihoods more broadly, some studies find that this has been modest or uneven across regions, communities, households or individuals and over time (Azadi, De Rudder, Vlassenroot, Nega, & Nyssen, 2017; Cochrane & Tamiru, 2016; Dejene & Cochrane, 2021; Duguma, 2019; D O Gilligan, Hoddinott, & Taffesse, 2009; Hoddinott, Berhane, Gilligan, Kumar, & Taffesse, 2012; Mersha & van Laerhoven, 2018; Sabates-Wheeler, Lind, & Hoddinott, 2013; Weldegebriel & Prowse, 2013). Others are more positive, arguing that despite its limitations, the PSNP has succeeded in its primary goal to prevent famine and reduce chronic food insecurity (Berhane, Gilligan, Hoddinott, Kumar, & Taffesse, 2014; Berhane et al., 2013; Coll-Black et al., 2013; Dasgupta & Robinson, 2021; Knippenberg & Hoddinott, 2017). This paper does not seek to debate the PSNP's effectiveness as it is currently being implemented, however. Taking a further step back, it examines the PSNP as emanating from depoliticised, techno-managerial approaches associated with neoliberal models of development that the Government and international development actors have long subscribed to (Ferguson, 1994; Hart, 2001; Li, 2007; Scott, 1999), and which emerging climate change regimes often align with (Eriksen et al., 2021; Milman and Arsano, 2014; Paprocki, 2021, 2018). My analysis builds particularly on the rich work of Leach & Mearns (1996), Hoben (1996) and Keeley & Scoones (2003) who have stressed the importance of challenging 'received wisdoms' on environmental issues in Africa and giving space to alternative perspectives in the development of policy to catalyse social transformation. Although the narratives of moral leadership and green growth that I identify for Ethiopia evolved from the country's own complex history, they actively feed into as well as respond to mandates of high-profile international processes on climate change which climate narratives

around the world also reflect. As such, this study's conclusions are not unique to the Ethiopian context. They illustrate how dominant and widespread climate discourses are used to uphold existing political interests and influence the evolution of development trajectories and interventions such as social protection. Rather than taking the opportunity of climate change to reflect on and challenge the socio-political structures that have historically shaped why certain people are more disadvantaged or vulnerable than others, these discourses may ultimately become barriers to societal transformation.

4.3 History and politics of modernisation and economic growth in Ethiopia

Ethiopia has undergone several turbulent political transformations in the last century. In the following, I briefly reflect on how a drive for modernisation, the experience of famine and State control over land resources have had bearing on the rise and fall of past regimes, to shed light onto the context in which the PSNP was designed and established as a growth-oriented programme.

4.3.1 Imperial ambitions for 'defensive' modernisation

A major figure in modern Ethiopian history is Haile Selassie, who reigned as Emperor from 1930 until 1974. Following in the footsteps of his predecessor Menelik II – who had famously protected Ethiopian independence during the Scramble for Africa – Haile Selassie saw value in pursuing modernisation through foreign policy (Asserate, 2015; Pankhurst, 1967). From the 1950s, he strengthened relations with Western powers; with this came more schools, hospitals, infrastructure, trade and military might (Asserate, 2015; Zewde, 2002). Ethiopia also became a founding member of the United Nations and host to the UN Economic Commission for Africa (UNECA) under his leadership, and was instrumental to the creation of the Organisation for African Unity (the precursor to the African Union) as the continent underwent a process of decolonisation (Coleman, 2008). The country thus acquired an image of African self-

confidence, independence and leadership that still resonates in Ethiopian nationalism today (Asserate, 2015; Clapham, 2018).

The absolute power held by the aging Monarch fuelled discontent, however, not least because outside of Addis, Ethiopians benefited little from his modernist reforms; most continued to lead impoverished, agrarian livelihoods, possessed no land tenure security, and had to pay rent to the land-owning aristocracy (Ottaway, 1986). The final decades of his reign were marked by civil unrest, culminating with a disastrous drought-related famine in 1972-73— imagery for which circulated around the world and stood in stark contrast to the Emperor's seemingly opulent lifestyle (Asserate, 2015; Kapuscinski, 1989; Wood, 1983). In 1974, Haile Selassie was overthrown, and the Ethiopian Empire brought to a brutal end. Thus began the 'Derg' regime, a period of military dictatorship under Mengistu Haile-Mariam.

4.3.2 Power and control under the Derg: Modernising through land reform

Under the Derg, modernisation was to be achieved through radical land reforms involving top-down management of Ethiopia's natural resources and multi-ethnic population. It immediately formed thousands of peasant associations (or *kebele*) to redistribute now-nationalised land (Bekele & Kjosavik, 2016; Ottaway, 1977, 1986; Wood, 1983). Later, it championed state farms to boost food production, influenced by the policies of the Soviet Union which provided Ethiopia with funds, machinery and technical support (Ottaway, 1986). Finally, by the mid-1980s, it pushed for collectivisation with the launch of a villagisation campaign to move scattered households into villages, together with a larger programme of resettlement that forcibly relocated millions into agriculturally productive regions (Alemu et al., 2002; Hoben, 1996; Ottaway, 1986). As Ottaway (1986) argues, these policies underlined that Ethiopia's land and resources belong to all Ethiopians, i.e. not to individual ethnic groups; as such they served to quell any attempt at regional self-government that would diminish the authority of the State.

This was a valid concern for the increasingly unpopular Mengistu regime, whose repeated land redistributions not only worsened tenure security for agrarian populations over the years (Bruce, Hoben, & Rahmato, 1994), but also did little to

alleviate Ethiopia's severe food insecurity. On the contrary, from 1984 to 1985, the country experienced yet another devastating famine, becoming once again the focus of unwanted media attention (Keller, 1992; Müller, 2013). As it later came to light, the Derg had a clear hand in the disaster by restricting the movement of goods and aid to quash political dissidents (de Waal, 1991; Keller, 1992; Shepherd, 1985). Insurgent groups finally defeated the military regime in 1991, and, following a period of transition, formed the new Federal Democratic Republic of Ethiopia (FDRE). They elected their leader, Meles Zenawi, as its first Prime Minister in 1995.

4.3.3 New beginnings?

Ethiopia's new Constitution instituted the current system of 'ethnic federalism,' which restructured the country into nine self-administered, ethnicity-based regional states and two city administrations (Admassie & Abebaw, 2014). The Federal Government in Addis Ababa nevertheless retains much power, particularly over matters related to the country's development (Bekele & Kjosavik, 2016). As I argue next, the founding story and the design of the PSNP reflect the continued importance of modernisation and accelerated growth to advance the agenda of the new democratic regime. The practice of politics employed by the State – which i) ensures its survival against perceived threats to power (such as internal conflict, chronic food insecurity and poverty), ii) restores its influence on the world stage, and iii) rationalises its control over natural resources and a physically dispersed, multi-ethnic population – are likewise rooted in the experiences of the past. These politics are now also being reproduced through Ethiopia's climate narratives, which shape the evolution of the climate-smart PSNP.

4.4 Re-imagining Ethiopia: From famine disaster to moral climate leader

Political interest in a 'climate-smart' PSNP is intertwined with the programme's founding story and the effort it represented to transform the image of the country and its leadership. Before the establishment of the safety net in 2005, Ethiopia was relying heavily on emergency aid to relieve its drought-related food shortages. As reflected in

the previous section, the population had already suffered two catastrophic famines in its recent past and become the object highly publicised humanitarian appeals (Keller, 1992; Müller, 2013). It is reported that since the mid-1980s and up to as recently as the early 2000s, the international community was providing food relief for between 1 to 14 million Ethiopians each year (The IDL Group, 2008).

The emergency system, however, was costly in addition to being inefficient; as it was famously put, it was 'saving lives, but not livelihoods' (Raisin, 2001). Donors were growing fatigued by the endless cycle of aid provision, as Prime Minister Meles Zenawi was painfully aware (Lavers, 2017). Acting rapidly at the heels of yet another drought and food crisis in 2002-03, he therefore convened federal and regional government, UN agencies, NGOs and the donor community to explore long-term solutions to the country's challenges (Sandford & Hobson, 2011; Wiseman et al., 2012). Out of these discussions emerged the idea for the PSNP, a social safety net to complement the emergency relief system.

4.4.1 Power in food security

After decades of aid provision, the international community would have certainly played a key role in these discussions. Yet, those involved emphasise that Zenawi's strong personal support for the idea of a growth-oriented safety net is what cemented both the establishment of the PSNP and its operationalisation at such a large scale (*GR-1; IC-1; MLA-3*). For a country that has continued to be distrustful of too much external influence, breaking free from dependency on the humanitarian system was a powerful motivator for seeking alternative options (Keeley & Scoones, 2003; Wiseman et al., 2012). Moreover, it was clear that delivering on the promise of food self-sufficiency would be critical for his government to maintain power domestically, given the undeniable contribution of the last two major famines to the demise of the Imperial and military regimes (Dejene & Cochrane, 2021; Lavers, 2017, 2019). Zenawi now found himself on a similarly precarious footing because the 2002-03 drought was closely following other political crises related to the breakout of war with Eritrea (Keeley & Scoones, 2003; Lavers, 2017).

Having to so frequently declare a national emergency likewise embarrassed the Government and undermined its credibility at the international stage (Lavers, 2019; The IDL Group, 2008). By this time, Ethiopia had become known for imagery of mass starvation that to this day epitomises conceptualisations of 'African disaster' (Müller, 2013). Far more critically, the famines that took place came to be understood not as the direct result of a natural hazard (drought), but of the Imperial regime's neglect of rural populations and the Derg's military tactics against rebel forces—i.e. they were disasters *created* by the State (de Waal, 1991, 1993). Ethiopia under the leadership of Zenawi could not be seen as yet another chapter in the nation's history of government failure. He was determined to transform the country's 'basket-case' reputation (Du Venage, 2012; Gray, 2018; Maynard, 2009) into one of progress and resilience by fully supporting the PSNP.

4.4.2 Climate leadership

The PSNP was thus founded as part of a process of a political reimagination of Ethiopia, which, based on some criteria, has been largely successful: currently among the world's fastest growing economies, the country is known to have made immense progress on human development over the past two decades and enjoyed (until recently) higher political stability compared to its neighbours (Clapham, 2018; Milman & Arsano, 2014; Oqubay, 2015). Now also host to the African Union, it moreover began re-assuming the crucial convening and externally facing roles it had previously played on various development issues for the continent, including climate change (Clapham, 2018; Paul & Weinthal, 2019). In fact, the unveiling of its CRGE strategy in 2011 was timed carefully to coincide with the year South Africa presided over the Conference of the Parties (COP) to the UNFCCC in Durban (*GR-2; GR-6; NC-1).* This effectively set Ethiopia as an example of African commitment towards an ambitious global climate response, and further enhanced the country's image and influence on the international stage. Just as he was a driving force behind the establishment of the PSNP, it was the former Prime Minister who had spearheaded the development of the CRGE (Jones & Carabine, 2015).

It is important to recognise that at the time of the CRGE's launch, climate change was still only beginning its rapid rise to prominence in the international development

agenda; the Strategy thus earned Ethiopia praise for taking early steps onto a forward-looking low-carbon development pathway (Paul & Weinthal, 2019). Moreover, because of its status as a low-income country with a very negligible contribution to global emissions, the CRGE made Ethiopia a moral leader on climate change that could apply pressure on wealthier and higher emitting countries to commit to more ambitious action (Ayalew, et al., 2020). In fact, the country leaned into this role as it became a more active and influential participant in the multilateral climate change governance process over the years, including by taking on various leadership positions (such as chairing the high-profile Climate Vulnerable Forum and the Least Developed Countries (LDC) negotiating bloc under the UNFCCC). When negotiations on the Paris Agreement entered their final, critical year, Ethiopia was among the first to communicate its intended nationally determined contribution (INDC) to the global response, underlining that "despite being a Least Developed Country, Ethiopia has already placed itself on the path to undertake a substantial national program of climate action" (FDRE, 2015d).

The fact that efforts to integrate climate change into the PSNP started in this period is no coincidence. The notion of a 'climate-smart' PSNP helped to reproduce Ethiopia's image as a climate leader particularly on adaptation and resilience, which, as had been noticed, the mitigation-focused CRGE had paid less attention to (*GR-2; GR-4; GR-6; NGO-2a*). The Government corrected this imbalance starting in 2015 through sectoral strategies for climate resilience in the areas of agriculture and forestry, water and energy, and transport (FDRE, 2015a, 2015b). It then followed with the INDC, also in 2015, and later with a National Adaptation Plan (NAP) in 2019, both developed as part of the country's engagement in the UNFCCC process (FDRE, 2015d, 2019). As one of the largest programmes under the purview of the Ministry of Agriculture which also already worked towards environmental objectives (see Section 3.5), the PSNP features in these documents as an example of how major development investments in the country have long played a part in building resilience to climate change. Strengthening this contribution of the safety net to national adaptation efforts through a process of climate change mainstreaming (as recommended in these strategies and plans) would have thus constituted a low-hanging fruit for Government and donors alike to act upon.

4.4.3 Politics of vulnerability

Besides being an early adopter of low-carbon climate resilient development policy, Ethiopia's image as a *moral* leader in this area hinges on highlighting its extreme vulnerability to adverse effects of climate change. Of course, there are many factors that contribute to the country's high sensitivity and vulnerability to weather variability and extremes: its borders cover more than 1.1 million km^2, and include some of the highest and lowest regions on earth, with correspondingly diverse and highly variable climates, seasons, and occurrence of natural hazards; moreover, it is a landlocked LDC with a rapidly increasing population of approximately 112 million, a large proportion of which is dependent on rain-fed agriculture (Admassie & Abebaw, 2014; Ayalew et al., 2020; Conway & Schipper, 2011; Niang et al., 2014). However, the founding story of the PSNP and its evolution to 'climate-smartness' reflect how the rhetoric of vulnerability to climate change also serves a depoliticising function.

As I have thus far argued, the PSNP was borne out of the Government's desire to end Ethiopia's heavy dependency on humanitarian relief, and with this, to distance itself both domestically and internationally from previous regimes that were held responsible for the country's devastating famines. Yet, although it now ranks among the world's fastest growing economies, chronic food insecurity to this day remains a top development challenge for the country (World Bank, 2020). What has shifted with the entry of the climate change discourse is the policy narrative's emphasis on natural hazards, particularly drought, as the root cause of food insecurity and past famine disasters, rather than socioeconomic and political failures (Sandstrom & Juhola, 2017). This is reflected for example in the foreword for one of Ethiopia's first climate change policy documents, the National Adaptation Programme of Action (NAPA), issued in 2007 (two years after the establishment of the PSNP):

> Current climate variability is already imposing a significant challenge to Ethiopia by affecting food security, water and energy supply, poverty reduction and sustainable development efforts, as well as by causing natural resource degradation and natural disasters. For example, the impacts of past droughts such as that of the 1972/73, 1984 and 2002/02 are still fresh in the memories of many Ethiopians.
>
> (FDRE, 2007, p. vi)

This discursive shift is also visible in Ethiopia's most recent climate-related plans, the NAP:

> … Ethiopia – as a country and its people – has been the subject of costly natural disasters in its long history. […] …experience has shown that the country is exposed to unpredictable rains including the complete failure of rains, seasonal shifts in rainfall patterns and shortage of rainfall (drought) and this uncertainty is expected to increase with climate change. […] This history and limited capacity to adapt to climate risk, uncertainty and change over time has made the country and its people vulnerable to the current and anticipated impacts of climate change.
>
> (FDRE, 2019, p. 18-19)

The rhetoric applied here of vulnerability as arising primarily from climatic stressors thus reframes past famines and current food insecurity as naturalised phenomena, devoid of their socio-historical contexts. Reinforcing a deterministic relationship between climate and development in Ethiopia is a widely cited graphic showing close association between annual rainfall and GDP in Ethiopia for the 1982-99 period (World Bank, 2006). Yet, updated analysis and alternative rainfall datasets show the association is more nuanced, is absent in the 2000s and dominated by the major drought and famine in 1984-85 (Conway & Schipper, 2011).

4.4.4 Historical responsibility and the promise of finance

Ethiopia's image of the moral leader is furthermore inextricably tied to global narratives associated with international climate (geo)politics (as are much of its self-initiated national actions on mitigation and adaptation (Mersha & van Laerhoven, 2018)). Whilst the multilateral process dealing with climate change continues to grow more complex and granular over time, the overarching narrative of historical responsibility, for instance, which Ethiopia and other low-income countries stand by, remains central: wealthy nations must cover the costs of climate action worldwide, given that their past activities caused the climate crisis disproportionately impacting poorer countries today and hurting their right to develop. The Global South's vulnerability to climate change and limited capabilities to respond are thus understood to be outcomes of social and political factors—i.e. as linked to global power inequity—and the provision of climate finance as a matter of justice, not aid. Paradoxically, however, this high-level geopolitical

narrative is also depoliticising. On one hand, such rhetoric of underdevelopment and lack of capacity usefully legitimises Western expertise and intervention on climate change (and beyond) in the Global South, as Mikulewicz (2020) notes. On the other, it obscures drivers of vulnerability to climate change present within these countries, including those that existed long before climate impacts intensified (Ribot, 2014). In this case, the notion of historical responsibility aligns well with a reframing of food insecurity in Ethiopia as arising naturally from drought, which is then intensified by the activities of the industrialised world. This not only allows for a compelling narrative on moral leadership to exist, it also provides grounds for making claims to the climate finance *it is owed* (rather than requesting humanitarian aid). Indeed, like the adoption of the CRGE (Jones & Carabine, 2015), interest in integrating climate considerations in the PSNP reflects government foresight and interest about emerging sources of finance of climate action, especially given the expectation from multilateral partners that Ethiopia's financial commitment to the PSNP should increase over time (*GR-7;* IC-1; *MLA-1; MLA-2; MLA-6*). The statement by Former Prime Minister Hailemariam Dessalegn (Zenawi's successor) at the Paris COP in 2015, for instance, makes good use of the narrative of moral leadership in his appeal to industrialised nations to fulfil their finance obligations:

> I have come to Paris, at this defining moment, to tell you of the struggles and hopes of my people; the stories of a hundred million people, who are working hard to eradicate poverty and establish a fair, prosperous and sustainable economy. […]
>
> […] climate change, weather variability and related disasters threaten our lives, livelihoods, and hard-fought development gains. We have seen average temperature rise, within half a century, by one degree centigrade. The rains have become unpredictable, unreliable. Extreme droughts and floods have become more frequent and severe. At the moment, El Niño-triggered drought is affecting millions of my people.
>
> We have not caused climate change. We cannot solve it on our own. We find ourselves in a situation which justifies surrender, hopelessness and bitterness. But we choose to be hopeful and proactive. […]
>
> If poor people like us can resolve to create a carbon neutral economy, surely better placed nations can and should do much more. […]
>
> If the poor in Ethiopia can sacrifice saving and labour, surely better placed nations can and should do more to support them.
>
> (Dessalegn, 2015)

In this manner, the narrative of Ethiopia as a moral leader attributes any future food-related disaster both to 'nature' and the activities of high-emitters, effectively absolving those currently in power within the country of responsibility. For a State whose history has been rocked by the spectre of famine and that still grapples with internal conflict, climate discourse thus plays an instrumental part in efforts to shed its past image, supporting both the reinstatement of its influence on the global stage and the defence of its position of power at home.

This process of political reimagination from famine disaster to moral leader in the face of a global crisis does not unfold in a vacuum to shape the growth-oriented 'climate-smart' PSNP agenda, however. In the next section, I examine how pre-existing narratives of environmental degradation caused principally by the unsustainable agricultural practices of rural populations have rationalised the design of the PSNP as a public works programme, and are now cementing its technocratic approach to adapting to climate change.

4.5 Environmental rehabilitation through public works: A technical solution to poverty, food insecurity, and climate change

Those involved in early discussions about the PSNP recall deep divisions among stakeholders regarding whether it should be a public works programme— or even include such a component at all (*IC-1; MLA-1; MLA-3*). Whilst some had favoured unconditional food or cash transfers to prospective PSNP households, the Government insisted that recipients should have to contribute their labour in exchange for benefits so as not to create dependency (Lavers, 2017; The IDL Group, 2008; Wiseman et al., 2012). Importantly, these demands drew on a longstanding history of public works programmes ostensibly motivated by concern about environmental degradation. In what follows, I argue that entrenched narratives of population pressure on the environment have repeatedly rationalised public workfare as a technically sound policy choice, while obscuring the State's more sensitive interest to govern over how land is

used by rural populations to accelerate economic growth. These are now also instrumental to Ethiopia's low-carbon and resilient climate narrative, which frames climate change primarily as a threat to growth.

4.5.1 Alleviating population pressure on the environment: From Project 2488 to PSNP

The PSNP is not the first (nor currently the only) public works programme to exist in Ethiopia. Two of Ethiopia's past large-scale and long-running 'food-for-work' initiatives even bear resemblance to the PSNP. The first is 'Project Ethiopia 2488: Rehabilitation of Forest, Grazing and Agricultural Lands' (Project 2488), established under the Derg regime in 1980 and implemented jointly by the Ministry of Agriculture and the World Food Programme (WFP). Lessons from its 20-year lifespan informed the design of the next generation WFP-led public workfare programme in the late 1990s: 'Managing Environmental Resources to Enable Transitions to more sustainable livelihoods' (MERET—the Amharic word for 'land'). Like the PSNP's public works, both programmes sought to 'rehabilitate' the country's natural resources, based on an understanding that environmental degradation (particularly soil erosion) is driving food insecurity, and that at the root of this degradation are the harmful agricultural practices of a large rural population.

To be sure, soil erosion in Ethiopia has been severe and widespread, and is in danger of worsening with projected population increase and extreme rainfall events (Haregeweyn et al., 2015; Niang et al., 2014). Although our understanding of what drives this phenomenon remains fragmented due to a high degree of regional variability and poor data availability and reliability, it is also well-established that land use change continues to be a major contributing factor (Haregeweyn et al., 2015; Nyssen et al., 2004). Soil and water conservation measures have been institutionalised and implemented in response across the country since the 1970s, and indeed, have (in aggregate) helped slow the pace of this degradation (Bewket, 2007; Haregeweyn et al., 2015). The seriousness of soil erosion and related environmental challenges in Ethiopia should therefore not be undermined, nor should the necessity or effectiveness of the efforts undertaken to address them. However, as Hoben (1996) and Keeley & Scoones (2003) before us have

argued, it is important to recognise that this narrative is not devoid of politics; it has been purposefully used and reproduced to support particular policy and governance goals.

The practicality of Project 2488's conservation agriculture objective, for instance, is easy to comprehend once it is put in context of Cold War geopolitics and the exercise of power by an authoritarian State. As Hoben (1996) argues, it was convenient for the Western donor and NGO community because it allowed for aid to be channelled directly to its 'intended beneficiaries' rather than through the Soviet-backed government. Keeping to Project 2488's narrow, technical framing as the basis for cooperation with Western powers was also in the interest of the Derg, who needed food aid to feed the army and quell civil unrest (Hoben, 1996). Moreover, the environmental degradation narrative it was premised on usefully shifted the blame for food insecurity away from the State and onto rural population's 'backwards' farming practices (Hoben, 1996; Keeley & Scoones, 2003). Indeed, an added benefit of Project 2488's environmental reclamation objective was how well it aligned with its heavy-handed programme of agrarian reform discussed earlier in this paper (Alemu et al., 2002; Hoben, 1996; Wood, 1983).

Later, the participatory approach to public works taken by MERET not only set it apart from Project 2488's top-down methods, but also helped legitimise the newly instated democratic regime. Communities were now actively involved in all stages of planning for and implementing the public works, ensuring that their priorities were not being compromised in meeting the highly technical demands of soil and water conservation (Nedessa & Wickrema, 2010). MERET thus aligned well with the novel system of decentralised governance instituted by the Transitional Government of Ethiopia, which promised people greater control over decisions affecting their lives (*ibid*). As such, it helped galvanise much needed rural support for the country's new political leaders, which, in the early years of taking over, needed to dispel a widespread suspicion that it would only care for the ethnic grouping most of them belonged to (Clapham, 2018; Ottaway, 1995). The popularity of MERET's approach subsequently prompted the Ministry of Agriculture to produce a highly detailed, two-part Community-Based Participatory Watershed Guideline in 2005 (Desta et al., 2005; Nedessa & Wickrema,

2010; *NC-6; NC-7*). Still in use today, this Guideline is championed by the Federal Government as one of the first State-led efforts to empower previously neglected populations (*GR-3; MLA-3*) and "a foundation for sustainable agricultural development in rural Ethiopia" (Desta et al., 2005: 3).

Today, the Government continues to use the narrative underlying Project 2488 and MERET to justify the primacy of the public works component under the PSNP. At its inception, it rationalised that although the PSNP's immediate purpose would be to smooth the consumption of participating households, applying the Watershed Guideline for the public works would help enhance long-term food security for whole communities (*GR-1; GR-3; IC-1; MLA-1; MLA-3*). Technical, environmental rehabilitation-focused public works are now a central tenet of the PSNP[7]. As the Programme Implementation Manual for Phase 5 of the programme reiterates, the watersheds and other such 'community assets' developed through the workfare component are precisely what enable the safety net to fulfil its principal *productive* function:

> The PSNP is a productive safety net which means that it not only includes a commitment to providing a safety net that protects food consumption and household assets, but it is also expected to address some of the underlying causes of food insecurity and to contribute to economic growth in its own right. The productive element comes from infrastructure and improved natural resources base [sic] created through PSNP public works and from the multiplier effects of cash transfers on the local economy.
>
> (FDRE, 2020: 18-19)

The PSNP's rapid rise to prominence within Ethiopia's development agenda has consequently not been as a welfarist safety net for its target populations (Lavers, 2019; *IC-3; MLA-1; MLA-3; NGO-1*) rather, it is hailed as a major programme tasked with improving Ethiopia's natural resource base and above all, advancing economic growth (FDRE, 2009a).

[7] Inspired by the community-based watershed guideline, the Government developed the Pastoral Area Public Works Guideline in 2012, following the PSNP's expansion into the lowland regions (FDRE, 2012). As a result, pastoral context-specific public works also include environmental objectives, such as rangeland and water resource development and rehabilitation, small scale irrigation, and biophysical soil and water conservation, among others (*ibid*).

Indeed, as previously discussed, an important part of the new democratic regime's efforts to restore the country's influence on the world stage and legitimise its power domestically involved reducing its dependency on humanitarian aid by seeking long-term solutions to food insecurity and poverty. Since Meles Zenawi's prime ministership, it has looked to the East Asian model of the 'developmental state' – characterised by strong government intervention, regulation and planning – to accelerate economic growth (Clapham, 2018; Gebresenbet, 2014; Lavers, 2019; Vaughan, 2011). In 1993, it introduced a strategy for 'Agricultural Development-Led Industrialisation' (ADLI) which subsequent national development plans have drawn heavily on, based on the premise that surplus agricultural output can fuel industrial sector growth (FDRE, 2002). At the height of its influence in the mid-1990s and 2000s, policies and programmes were implemented to boost the yields of smallholder farmers, through the introduction of extension services, modernised food production practices and technologies (e.g. inorganic fertilisers and improved seeds), and efforts to resettle (willing) households to agriculturally more productive regions (Admassie & Abebaw, 2014; Berhanu & Poulton, 2014; OECD & Institute for Policy Studies, 2020). Though it represents a more nuanced exercise of power by the Federal Government, ADLI is thus certainly reminiscent of the Derg's programme of control over population and land resources (Milman & Arsano, 2014).

ADLI did manage to spur high levels of growth, but was far less successful in reducing food insecurity and chronic poverty (Cochrane & Bekele, 2018; Dejene & Cochrane, 2021); the PSNP reflects a concession by the Government that household consumption and assets needed to be urgently stabilised to meet ambitious productivity goals (Lavers, 2019). Thus, whilst the environmental rehabilitation narrative and the consultative watershed development approach underpinning the PSNP (and MERET before it) would seem to contradict the ADLI's focus on agricultural intensification and highly prescriptive farming practices, they advance it in several ways. First, the rehabilitation of degraded watersheds, in the long-run, would increase the supply of farmable land—which the government frames as an exceedingly scarce resource given Ethiopia's population growth rates (Keeley & Scoones, 2003). Second, the public works employ surplus labour in rural areas, ensuring that this large resource of available labour

is productive rather than idle (Vaughan, 2011). Third, the steady, location-based support communities receive, together with the sense of ownership of the watershed they develop through the programme, supports the Government's preference to closely manage the pace of rural-urban migration to coincide with the development of industry sector employment opportunities (Keeley & Scoones, 2003; Lavers, 2013, 2017; *MLA-6*). In this manner, the highly technical framing of the PSNP's public works obscures the Government's more sensitive political interest to govern over how land is used by rural populations, particularly the poorest amongst them, who represent both a burden and a reserve workforce the State can draw on to accelerate industrialisation and economic growth.

4.5.2 Governing livelihoods and landscapes to foster green growth

Today, the entrenched development narratives of population pressure on the environment that have shaped the PSNP's public works focus have newfound purpose within Ethiopia's narrative on climate change, which it problematises primarily as a threat to economic growth. This is especially discernible in the Climate Resilience Strategy for Agriculture and Forestry, which serves as a blueprint for subsequent sectoral resilience strategies under the CRGE (FDRE, 2015a). Agriculture and forestry are identified as being among Ethiopia's most vulnerable sectors, "due to their importance to national income and livelihoods" (FDRE, 2015a: 5); besides employing 80% of the population, they make up 43% of GDP and produce nine of the ten largest export commodities, the Strategy states. It warns of loss of agricultural output, lower export earnings and reduced foreign direct investment resulting from weather variability and related hazards – notably, drought, flooding, and soil erosion (FDRE, 2015a). The significant impact of climate change on these sectors and associated costs to the economy, it claims, put the country's "ambition for reaching middle-income status by 2025 at risk" (FDRE, 2015a: 7).

In this narrative, climate change is a threat to growth, but sustaining a healthy economy is also key to protecting the country from this threat. Echoing ADLI, Ethiopia's climate policies underline that strengthened rural development through increased agricultural productivity would continue to fuel growth as well as reduce climate-induced food

insecurity nationwide (FDRE, 2007, 2011b, 2011a, 2015d). In fact, they reflect that much of the agriculture sector's work already builds the resilience of Ethiopians (whether or not this is made explicit), ensuring they can contribute to further economic development (FDRE, 2007, 2015d, 2019). This includes such programmes as the PSNP which target the very regions and people most exposed and sensitive to climatic hazards. In other words, agricultural development *is* a form of adaptation for both the country's economy, its resources, and its population (*GR-2; CSO-1; GR-5; GR-7; NGO-2a*).

As such, agriculture's characterisation as an 'engine of growth' remains pertinent in Ethiopia's climate vulnerability and resilience discourses. However, economic growth, especially when it is driven by the agriculture and forestry sectors, also results in greenhouse gas emissions— a fact that the Government has had to grapple with to cultivate its image of 'moral climate leader'. The established narrative of environmental degradation has proven instrumental for dealing with this paradox. Ethiopia's NAPA, from the outset, pointed to population pressure on natural resources as a domestic factor that worsens the impacts of climate change on food security and the environment:

> …recurrent drought, famine and, recently, flood [sic] are the main problems that affects [sic] millions of people in the country almost every year. While the causes of most disasters are climate related, the deterioration of the natural environment due to unchecked human activities and poverty has further exacerbated the situation.
>
> (FDRE, 2007: 16)

Such a framing has allowed previous and ongoing work on the environment – including that which is undertaken through the PSNP's public works – to represent further evidence of timely Government action to build the resilience of its large rural population to climate change (FDRE, 2007, 2015d, 2019).

More recently, however, this work has come to reflect Government efforts to harness opportunities presented by climate change for low-carbon growth, and 'maximise the synergies' between adaptation and mitigation (FDRE, 2011a, 2015d, 2015c). The country's Green Economy Strategy identifies livestock, fertiliser use, and deforestation

for agricultural land and fuelwood consumption as the major sources of its own current and projected emissions, of which population growth is an underlying driver (FDRE, 2011a). Accordingly, it sets improving agriculture production practices and protecting and re-establishing forests as carbon stocks as two of its four action pillars (FDRE, 2011a). In this manner, the narrative directs attention onto rural populations, whose livelihoods are problematised as unsustainable as well as vulnerable:

> Although considered a climate-related hazard, soil erosion is caused by a mix of socioeconomic and climate factors. […] Changing farming practices and increasing demand for basic natural resources can result in land-use changes that increase soil erosion (e.g. by reducing vegetation cover).
>
> (FDRE, 2015a: 23)

> The population of Ethiopia is expected to increase from 91 million in 2013 to 100 million by 2020, 120 million by 2030 and 145 million by 2050. The projected population increase, urbanisation and income changes are predicted to alter profoundly the prospects for sustained economic development, exert pressure on natural resources and contribute to increases in greenhouse gas (GHG) emissions.
>
> (FDRE, 2015b: 28)

> The increased demand on natural resources as a result of population pressure and poor conservation management has strained the functioning of the natural system. The resulting shortage of resources to address basic human needs and the inability of the natural ecosystem to respond threatens people with a high degree of risk and increased vulnerability.
>
> (FDRE, 2019: 21)

Doing so undoubtedly renders the Government's task of building an economy that is both climate-resilient and low-carbon more manageable, because the tools, experience and reserve labour to address environmental degradation already exist in-country. More importantly, the consequences of the Government's own policies to intensify the productivity of the agriculture and forestry sectors are underplayed, leaving the implementation of its growth agenda uncompromised. Interventions that seek to alter and govern how natural resources are accessed and used by the specific sections of the population defined as vulnerable are in this manner rationalised as technically sound and expedient 'win-win' solutions to climate change.

4.5.3 A 'technically climate-smart' PSNP

Ethiopia's climate discourses thus converge neatly with the very narratives of environmental degradation that brought about and shaped the design of the PSNP, further legitimising its programmatic emphasis on public workfare. The PSNP's *immediate* response to (forecasted or unexpected) climatic shocks such as major droughts or extreme rainfall is supposed to be triggered by its contingency mechanism, managed by Ministry of Peace's National Disaster Risk Management Commission in collaboration with the National Meteorological Agency. However, for the stakeholders involved in 'adapting' the PSNP to climate change, what makes the programme truly 'climate-smart' are the actions taken to reduce the impacts of soil erosion in the *long-term* – for both strengthening the resilience of its participants and mitigating climate change (*GR-3; GR-4; IC-2; IC-4; NC-3; NC-5*). Indeed, the CSI aimed to leverage the public works' 'climate-smartness', by ensuring that climate variability and risks are accounted for through their selection, design and planning phases. According to project outputs, it sought 'low-regret' options for: i) maximizing the programme's contribution in reducing people's vulnerability to climate change; ii) increasing the resilience and sustainability of public work investments in relation to climate change; and iii) enabling them to generate mitigation co-benefits where possible (Lind et al., 2016). Accordingly, the PSNP's contribution to the CRGE is now measured in terms of the percentage of land covered by improved watershed and rangeland management structures and practices, and greenhouse gas emissions sequestered in public works-supported watersheds (FDRE, 2014b). More recent 'climate-smart mainstreaming' work led by the CSM-PSNP does not stray from this technocratic path either; it builds on CSI's recommendations by identifying appropriate 'climate-smart' technologies and practices PSNP implementers at the local level can easily draw on, based on location-specific assessments of climatic risks and their differentiated impact on women and men (*DR-2; GR-3; IC-2; IC-4; IC-5; NC-2; NC-3; NC-5*).

Efforts to render the programme 'climate-smart' thus overwhelmingly focus on adapting the PSNP to biophysical aspects of climate change. A major benefit of this framing is how well it fits with global narratives on climate finance which Ethiopia subscribes to, wherein climate action is to be 'separate and additional' from

development efforts. Whilst this argument, again, justifiably brings to the fore the role of the industrialised world in causing climate change, the concept of 'additionality' instinctively favours responses that are directed at biophysical risks, overlooking the non-climatic, socio-political contexts that equally shape climate vulnerability (Khan & Roberts, 2013; O'Brien et al., 2007). Indeed, even as actors – Government and donor representatives alike – argue that drawing the line between climate action and development is in practice difficult (Sherman et al., 2016), efforts to render the PSNP 'climate-smart' have been successfully projectized and supported by external consultants, and receive funding that is clearly set apart from the World Bank-managed trust fund that finances the safety net. The CSI even highlighted the potential for Ethiopia to participate in carbon markets, where the PSNP's environment-focused public works could generate credits for effectively sequestering carbon from the atmosphere (Lind et al., 2016; Woolf et al., 2015; Woolf et al., 2018). As such, there is little doubt that global narratives on climate finance have likewise contributed to shaping and reinforcing ideas and boundaries dictating what a 'climate-smart' PSNP entails.

Ultimately, as I have argued in this section, the technical demands of environmental rehabilitation that underpin the PSNP's public works and their contribution to economic growth have long obscured the State's more sensitive political interests to govern how increasingly scarce land is used (Hoben, 1996; Keeley & Scoones, 2003; Lavers, 2017, 2019; Milman & Arsano, 2014). Together with the narrative of leadership in the face of a global crisis, Ethiopia's climate discourses contribute to maintaining the PSNP's productivist orientation, and thus help perpetuate these politics. Growth-oriented and rights-based approaches to 'climate-smart' or 'adaptive' social protection are not contradictory or mutually exclusive, and making adjustments to PSNP programming to take into account (biophysical) climate hazards is indeed sensible. Nevertheless, the consequence of such an over-emphasis on growth and climate outcomes is that opportunities for a more rights-based PSNP that could enable rural communities to have more autonomy and control over land resources and rural livelihood choices are neglected or even undermined.

It is true that enhancing resilience through social empowerment and the advancement of rights (including to secure land tenure) is arguably beyond the scope of the PSNP's original goals. Indeed, as I reflected earlier, the programme was established to prevent famine and reduce chronic food insecurity—which many agree, it has done (Berhane et al., 2014, 2013; Coll-Black et al., 2013; Dasgupta & Robinson, 2021; Knippenberg & Hoddinott, 2017). However, the safety net's longevity cannot be attributed solely to these outcomes. As actors engaged in its design or financing have observed, the PSNP has had to re-invent itself over time, to retain the attention and support of Government and donors alike (*DR-1; MLA-1; MLA-3*). PSNP-4, for instance, represented a significant departure from previous phases not least with the removal of a controversial resettlement component (FDRE, 2014b). At the same time, the scale of the programme, its embeddedness within government structures, and the widespread attention it receives within international development circles have made it an ever-attractive instrument through which new policy agendas – like climate change – can be advanced (*DR-1; DR-2; GR-1; GR-4; MLA-1; MLA-3; NC-1; NC-3; NGO-1; NGO-2*). Whilst I do not believe pursuing a 'climate-smart' PSNP is fundamentally misguided, my study uncovering the politics behind the technocratic approach the decision-makers are favouring suggests this is a missed opportunity to be socially transformative in the long-run. Especially in a context where limited resources and capacity mean they frequently face difficult choices (Cochrane, 2018), I believe better aligning the PSNP to Ethiopia's rights-based National Social Protection Policy (NSPP) and taking steps to improve land tenure security for the rural poor should first be prioritised. There is a need for the programme to deliver more *social* protection, before overburdening the programme with climate-smart adjustments— this is a prerequisite for building the resilience of the very people it intends to benefit (Davies et al., 2013, 2009; Olsson et al., 2014).

4.6 Conclusion

A rights-based approach to 'adaptive social protection' holds promise as a policy measure to address structural aspects of vulnerability to climate change such as inequality and marginalisation, yet it has been failing to gain traction over productivist,

growth-oriented interventions. Through the lens of Ethiopia's PSNP, I examined the role of climate discourses in hindering a path towards socially transformative outcomes. I argued that the country's climate narratives on moral leadership and green growth shape the PSNP's 'climate-smart' evolution. However, they themselves emerged from historically produced and politically driven narratives of modernisation that have long underpinned Ethiopia's growth-oriented development choices. As a result, the increasingly prominent role played by the PSNP in the country's climate response, together with the emphasis its 'climate-smart' actions place on addressing biophysical aspects of climate risk through public works, perpetuate State efforts to regain influence on the international stage and control how scarce productive land is used.

In conclusion, this case study offers a cautionary lesson about the unintended consequences of climate discourses; they risk diluting core rights-based dimensions of social protection, contradicting efforts to address the structural dimensions of vulnerability to climate change. The PSNP is already considered to be a model social protection programme; its experience in adapting to climate change thus has bearing on how the wider ASP agenda takes shape and is cemented in years to come. But while I recognise its ongoing critical role in social protection, I argue that the PSNP's transformative potential to build resilience to climate change lies in further empowering its participants.

CHAPTER 5

Supplementary material for Paper 2 (Chapter 4)

5.1 Introduction

This chapter constitutes material that is supplementary to Paper 2 (Chapter 4). I begin with a brief presentation of two other large-scale 'adaptive social protection' programmes, which, like the PSNP, are frequently discussed among those interested in this agenda. I also review secondary literature on the PSNP's contribution to climate action, to ultimately reflect on whether social protection works (or could work) in the context of climate change.

I then provide further insight into my analytical process for Paper 2. Specifically, I reflect on why policymakers have come to understand the PSNP as a 'climate-smart' programme, how it is made to be 'climate-smart', and/or whether it is (or can be) transformative in terms of reducing the structural vulnerability of its participants to climate change. In doing so, I present a selection of quotes from my interview respondents (also indicating how they have been categorised into codes and broader themes)[8] and excerpts from documents to illustrate how I have reached my conclusions.

5.2 Social protection and climate change: Examples from the Sahel, India, and Ethiopia

5.2.1 Sahel Adaptive Social Protection Programme (SASPP)

The World Bank's Sahel Adaptive Social Protection Programme, launched in 2014, supports six Sahelian countries (Burkina Faso, Chad, Mali, Mauritania, Niger, and Senegal) in the design and implementation of adaptive social protection programmes and systems, to help households strengthen their resilience to climate change (World Bank, 2016). Its pilot phase ran until 2019; its second implementation phase began in 2020 and runs until 2025. The programme was set up precisely to 'test the ASP concept at scale' (Béné et al., 2018). A key aspect has been to support the integration of seasonal

[8] Unless it is to support a precise point within my text, I do not attribute quotes to the key informant categories I have reflected in Appendix B.2 as this would compromise the anonymity of my respondents.

climate forecasts in the delivery of social protection benefits, and promote dialogue between climate and social protection stakeholders in each country (Daron et al., 2021).

Béné et al. (2018) and Daron et al. (2021) offer initial reflections and lessons emerging from the implementation of the SASPP. While there is potential to use seasonal forecasts in to deliver ASP in these countries, Daron et al. (2021) find that significant barriers exist: there are knowledge gaps in understanding the impacts of seasonal variations for the region; observation data to evaluate forecasts is sparse; and entry points for integrating seasonal climate forecasts are difficult to both identify and incorporate in existing early warning systems used to inform ASP. Nevertheless, the authors recommend continued investment in climate and livelihoods research, data and services, and further strengthening the capacity of and dialogue between actors to co-develop climate forecasts and provide actionable information.

Speaking earlier in the programme's implementation as well as more broadly to its implementation of the ASP concept, Béné et al. (2018) argue that it does support making each country's social protection systems scalable, enable rapid response, and expand targeting to those vulnerable to transitory poverty as a result of climate shocks. The authors also argue that it has the potential to enable beneficiaries to move beyond adopting only short-term coping strategies when faced with shocks, and support them to engage in longer-term adaptive strategies. They moreover stress that the underlying principles of the programme are 'transformative' because they require changes in the institutional and operational design of social protection systems. However, as I argued in Paper 1, the authors do not consider whether it will have transformative effects around empowerment and equity; fostering such transformation for recipients is not an explicit objective of the programme (Tenzing, 2020).

That the SASPP interprets ASP in a 'growth-oriented' manner is also clear: except for in Chad (where a new programme was being established concurrently during the pilot phase), social safety nets had been already put in place in each country; resources from the SASPP are only supporting the activities needed to strengthen or expand these systems to enable households to anticipate, absorb, and recover from climate-related shocks (Béné et al., 2018) – i.e. the components that are 'additional' to the existing social

protection systems. Its focus is exclusively on how to 'adapt' existing systems to biophysical climate hazards, with the assumption that households that are vulnerable to climate shocks will benefit from these institutional technocratic adjustments. At the time of writing, empirical evidence of household vulnerability reduction (even if defined narrowly as a linear result of exposure to climate hazard) is not or has not been made available.

5.2.2 Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)

Unlike the SASPP, the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) is not a World Bank-managed project. It is one of the Government of India's most important social sector programmes (and the largest public works programme in the world), emanating from the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) passed in Parliament in 2005 (Adam, 2015). Under the Scheme, rural households have a legal right to access a minimum of 100 days' wage employment as unskilled labourers, to construct rural infrastructure, strengthen rural institutions and build new skills (Godfrey-Wood & Flower, 2017; Soanes, Kaur, Venkataramani, Shakya, & Kaur, 2019). It furthermore makes special effort to prioritise and empower disadvantaged sections of society, including small and marginal farmers, scheduled castes and tribes, people living below the poverty line, and women (Adam, 2015). As such, the MGNREGS reflects a rights-based approach to social protection that seeks to address certain structural conditions driving the vulnerability of those it supports (Adam, 2015; Godfrey-Wood & Flower, 2017).

There has been growing interest within Government and the climate and development community to leverage the MGNREGS for climate change adaptation. Much like with the PSNP, this has focused on the expansion of the programme in preparation for or in response to climatic shocks (e.g. an increase of guaranteed employment to 150 days), as well as on the potential for the infrastructure assets created by the public works to constitute nature-based solutions for climate action (Kaur et al., 2019; Norton et al., 2020; Steinbach et al., 2016, 2017). This body of work has also proposed leveraging the programme's institutional architecture to effectively channel finance for climate action

to the subnational level and directly to the most vulnerable households (i.e. those participating in the programme) (Soanes et al., 2019).

The evidence of the MGNREGS' contribution to climate action is limited as well as mixed, however. Some research finds that it effectively bolsters consumption, savings, financial inclusion, access to essential services, health and human capital of households, and thus provides a good safety net during agricultural lean seasons and/or in the aftermath of unexpected shocks (Godfrey-Wood & Flower, 2017; Jha, Mishra, Sinha, Alatalo, & Pandey, 2017). In terms of underlying structural drivers of vulnerability, Godfrey-Wood & Flower (2017) find that in the state of Andhra Pradesh, the Scheme has helped shift power relations between labourers and local elites, as well as between women and men within their households. However, they also emphasise that the results of MGNREGS' implementation vary substantially across Indian states, depending on factors such as local political commitment and government capacity. Similarly, Adam (2015) warns that although it prioritises key marginal groups, "more radical questions such as land reforms, changing labour relations, creation of markets or technological diffusion are not posed and possibly even muffled by pointing to the functioning of [the Scheme]" (149). Furthermore, because it was not set up as an adaptation programme from the outset but is rather being 'retrofitted' to be one, the MGNREGS risks locking communities into present development patterns, the author argues (Adam, 2015). When future climate stress and risks exceed communities' capacity to cope, they could find themselves in an even more vulnerable state (Adam, 2015; Eriksen et al., 2021).

5.2.3 The PSNP and climate change

Relative to the SASPP and the MGNREGS, a larger and growing body of literature exists on the PSNP's potential contribution to climate action. As I reflect in Paper 2, research emanating from the Climate Smart Initiative (CSI) has found that its public works component could have substantial mitigation co-benefits (Woolf et al., 2015). With regard to adaptation and resilience, existing literature suggests that the PSNP does protect households from adverse effects of climate change in the short term through the provision of well-implemented and regular transfers; however, the safety net has not enabled participating households to enhance their resilience to climate change in

the long-term, for example by diversifying their livelihoods to productive, non-farm activities (Béné, Devereux, et al., 2012; Duguma, 2019; Ulrichs et al., 2019; Weldegebriel & Prowse, 2013). This research therefore underlines the importance of complementary interventions to build longer-term resilience to climate risks (Duguma, 2019; Ulrichs et al., 2019). Some scholars, however, also warn of unintended, maladaptive outcomes arising from PSNP support. Weldegebriel & Prowse (2013), for instance, observe an increase in the extraction and sale of natural resources, which they interpret as a negative adaptation strategy that could further increase households' vulnerability in the longer term. Moreover, Mersha & van Laerhoven (2018) find that whilst the creation of community assets through the public works component increases non-PSNP households' capacity to adapt, that of PSNP households is constrained as a result of the labour and time investments the public works require. This is especially true for women, due to both the PSNP's prioritised targeting of female-headed households, as well as local gender norms and power asymmetries.

The SASPP, the MGNREGS and the PSNP are three of the largest and most frequently cited examples of initiatives to 'adapt' social protection to climate change. Several immediate conclusions can already be drawn from this rapid review, which are in line with what I find in Paper 1 (Chapter 3). First, regardless of whether social protection is understood from a growth-oriented perspective (as with the SASPP and PSNP) or from a rights-based one (as with MGNREGS), the necessity of social protection for building resilience to climate change is not questioned. Second, all three programmes are still at early stages of integrating climate change considerations in their programming and are taking a variety of approaches to doing so, including: focusing on managing biophysical risks informed by climate information and enhancing the flexibility of systems so that they can scale up support to respond (*ex ante* or *ex post*) to climate shocks; leveraging the institutional architecture for delivering climate finance to those most in need; and rehabilitating and harnessing the ecosystem co-benefits of public work investments. And third, early results of these programmes' efforts to adjust or contribute to climate action have been mixed. In general, the literature agrees that they do help recipients cope with climate-related shocks on their livelihoods, but it is too early to tell if they have an impact on longer-term adaptive capacities. More critical scholars warn that if

they overlook structural drivers of vulnerability to climate change stemming from social inequalities, these programmes risk supporting coping strategies that are maladaptive in the long run.

5.3 The 'why' and 'how' of the 'climate-smart' PSNP

The rest of this chapter turns back to my study of the PSNP (Paper 2, Chapter 4), to present further insights into my data and analytical process in understanding the 'why' and 'how' of the rendering the PSNP 'climate-smart'. Through my interviews with key informants, I first set out to understand why different actors and institutions have been motivated to render the PSNP 'climate-smart', and what the process of doing so has entailed. Much of this information came from representatives of different Government ministries (notably the Ministry of Agriculture, where the PSNP is housed, and the Environment, Forests and Climate Change Commission (EFCCC)), donor and multilateral organisations and international NGOs, as well as independent consultants (both national and external). While I was interested in their own perspectives of why this agenda has gained traction and how it is being implemented, I was able to triangulate information they provided with the documents I was also analysing (e.g. outputs of the CSI).

5.3.1 'Serendipitous' adaptation?

As reflected in the excerpts in Box 5.1 below, many of my respondents are of the view that because the PSNP already possesses environmental sustainability objectives through its public works, integrating climate change into the programme as part of efforts to implement the new Climate Resilient Green Economy (CRGE) strategy constitutes a low-hanging fruit. The blurry or artificial line separating what constitutes adaptation and what constitutes development has come through strongly in responses, from policy-makers and donors alike (see also next sub-section). Related to this, there is also a sense that environmental sustainability objectives and climate change action are more or less the same, particular for the Ethiopian Government; indeed, the national portfolio on climate change is housed within the Environment, Forest and Climate

Change Commission (EFCCC), previously known as the Ministry of Environment. In this manner, just as Adam (2015) has commented for the MGNREGS, it can be said to be 'serendipitous' that the PSNP's public works component already practises adaptation.

Box 5.1: Excerpts from key informant interviews (1)	
THEME	*Integrating climate change into the PSNP: the 'WHY'*
CODES	*Adaptation / environmental sustainability already a part of the PSNP* *National policy direction to mainstream climate change into development* *Tapping into / reporting as climate finance* *Development as adaptation*
"3.6 million people have been food secure [since 2005]; they have graduated from the PSNP. And this is the ultimate goal – but we know that doing this should be environmentally-friendly – and this was there right from the beginning." "[Around the start of the 2010s, the PSNP] became part of a wider programme of social protection, at least on paper, and it became something within which climate change was going to be mainstreamed" "Ethiopia engaged very early in the climate agenda – from 2011 – they were already developing their CRGE – and they realised that some of the problems were, if not caused by climate change were certainly going to be made more difficult by climate change so… and really the PSNP being – as I say – one of the *flagship* programmes – it makes obvious sense that you should be looking at that with a climate lens." "…there was a very interesting debate with the Ethiopians saying, 'we've got this huge environmental programme under the PSNP therefore we're already doing what countries are being asked to do' – so again, business-as-usual – 'just give us more money'" "At the beginning, the CSI was just a way to see if Ethiopia can access GCF finance… but in the end they decided GCF should be reserved for new programmes" "There were discussions happening among donors – once Ethiopia has started talking about CRGE and how to finance [CRGE] – they were saying that, well, they were already providing funds through Safety Net Programme, and they wanted to make sure that— […] they frequently mentioned productive safety net programme and the need to mainstream climate change into the PSNP." "Our economy is basically based on natural resources—so whatever we do is emissions reduction. We don't want to compartmentalise what is adaptation, what is	

mitigation, what is development for our donors. […] Our agriculture is basically natural resource management, watershed-level management"

"…this broad portfolio of climate adaptation which literally means supporting any action that is meant to conserve water, natural resources, the forest, etc. and how people are living – so because the Ethiopian government always considers this narrative – that basically we are poor – the Ethiopian population – anything we do on the ground is considered— should be considered as an adaptation. […] So, it is in a way, if you are developing an access road, or trying to conserve a forest area [through the PSNP], it is considered as an adaptation."

5.3.2 Government- or donor-driven agenda?

When I probed my interview participants about whether efforts to 'climate-smart' the PSNP were donor- or government-driven, the answers pointed to a balance between the two (as reflected in the excerpts above). On the one hand, many emphasised that for the Ethiopian Government, any programme or intervention related to agricultural development, food security and improvement of the natural resource base *is* adaptation to climate change. As such, a more explicit mainstreaming of climate change considerations could open doors to climate finance. On the other hand, it was clear that for donors who were already channelling substantial amounts of resources to the PSNP, leveraging the programme for climate action fit well within their own development agendas and mandates from their respective capitols. This is nicely illustrated in evidence presented by the UK Government to the House of Commons' Environmental Audit Committee, in 2011 (i.e. *before* the start of the CSI):

> In Ethiopia [the Department for International Development] is providing £203 million to support the Government's Productive Safety Nets Programme (PSNP) over a five year period. PSNP is the largest climate change adaptation programme in Africa. The programme undertakes a broad range of public works projects to rehabilitate the environment and improve social services with investments in Soil and Water Conservation (SWC), water supply as well as health projects. […] Climate change is being mainstreamed into PSNP on the basis of detailed studies that have been commissioned.

(House of Commons Environmental Audit Committee, 2011: 131)

Moreover, although respondents noted that the CSI had indeed been more donor-driven (and implemented by international NGOs), this is arguably what led to its downfall. Some interviewees said CSI recommendations were overly technical or arrived too late in the process of designing PSNP-4 to be taken fully into account:

> "[CSI] brought in all sorts of scientists and experts. So they worked for a couple of years, deciding or recommending what we should do. In the end, their programme was quite technical – probably too technical in hindsight." (MLA-3)

> "so there was a really annoying mismatch in timing – so basically, [CSI] didn't have much to say when PSNP-4 was being designed. And so, I was part of the team writing up the PSNP-4 design […] you can see various bits of caveats in the design document … but there was literally nothing that we could, in a kind of mainstream way, pull in [from CSI] to the design of PSNP 4. So yes, I think there is an interesting thing there about the fact that if you don't get your timing right on some of these things, you can miss opportunities" (MLA-1)

This assessment is also reflected in the CSI evaluation report. It states that although "CSI failed to develop and implement an appropriate strategy to engage and influence Federal Government during its lifetime" (CARE, SNV, IDS, & ITAD, 2015: 5), one 'eleventh hour' opportunity remained at the time of writing to engage with Government with lessons learnt from the Initiative (*ibid*). But as one donor representative observed, "nothing can really happen without [Ethiopian] Government buy-in" (DR-1); this was echoed by representatives of multilateral institutions and external consultants. In fact, respondents identified the lack of federal government ownership of the CSI, as having led to the lukewarm response to the CSI's work and findings. Indeed, whilst various project outputs (such as policy briefs, reports, guidelines) were produced, according to my key informants, they were never approved for wider dissemination by the Ministry of Agriculture:

> "We had all of this documentation, material, that was prepared, and… we weren't allowed to make any of this publicly available – and so it's never been posted on

> the internet – it's just all sitting basically on my computer […] and I, I'm not sure what the issue was – and why it couldn't see the light of day" (IC-5)

> "Now, the reason why the same [CSI] people didn't get the work – it was thought that they weren't directly engaged enough with the Ministry [of Agriculture], and they were – they developed some interesting work, developed some reports – but they didn't work enough with Government" (IC-2)

Indeed, this is the principal distinction between the CSI and its subsequent phase, the Climate-Smart Mainstreaming of the PSNP (CSM-PSNP). The CSM-PSNP is said to have learnt from the CSI experience and placed technical support staff on secondment within the Ministry of Agriculture itself:

> "An important distinction [between CSI and CSM-PSNP] is that we as a project are focusing on just the technical support – so we don't have – we call them, investment funds if you will, to go out and build things or buy things—we don't have that component which CSI had. They did a number of pilot activities– in fact some people, some Ministry of Agriculture people said, well we were kind of competing at times, for the same beneficiaries, the same Development Agents, and so forth […]. And so here we are. And we are four key experts, completely embedded and integrated into the natural resource management directorate and the food security coordination directorate [of the Ministry of Agriculture]." (GR-6)

> "We liaise with this team called the Technical Assistance team in the Ministry of Agriculture— […] this technical assistance team was very, very keen to have us work very closely with them, because of this problem that had happened previously. They wanted to, they wanted to review any changes to the [watershed] guidelines, how the stocktake [of climate-smart technologies] was designed, any TORs that were developed, directly with us—" (NC-5)

As such, the full backing of Government has been essential to efforts to render the PSNP 'climate-smart'. This is in line with findings from Jones & Carabine (2015) and Lavers (2019), who highlight Government support and leadership as key ingredients to the launch of the CRGE and establishment of the PSNP, respectively.

5.3.3 Emphasis on public works

Interestingly, the 'how' of rendering the PSNP 'climate-smart' falls somewhere in between the experiences of the SASPP and the MGNREGS. Like the SASPP, the PSNP takes a more obvious growth-oriented approach to social protection, setting out to smooth the consumption of households whose livelihoods are negatively impacted by climate-related shocks. This is not surprising, given that as the manager of its trust fund, the World Bank, has been involved in discussions on the establishment and operationalisation of the PSNP. But although integrating climate information (or climate vulnerability hotspot mapping) is a part of efforts to 'climate-smart' the PSNP, it quickly became clear through my interviews and documents analysis that the public works are what take centre stage, as in the case of the MGNREGS. There is a particular focus on the 'technologies and practices' that can be adopted to make the assets created through these public works (i.e. rehabilitated watersheds) as well as the communities (extending beyond PSNP participants) living within these watersheds more resilient to climate change (see Box 5.2). This is related to the obvious tension about what the PSNP 'is': an 'asset-building programme', a 'public works programme', a 'watershed rehabilitation programme', a 'social protection programme', or an 'adaptation programme'?; and are these different 'identities' mutually exclusive? This is already discussed in Paper 2 (Chapter 4), but I explore this further in the next sub-section with a discussion on the Managing Environmental Resources to Enable Transitions (MERET) programme.

Box 5.2: Excerpts from key informant interviews (2)	
THEME	*Integrating climate change into the PSNP: the 'HOW'*
CODES	*Primacy of public works* *Emphasis on technology (climate-smart technology and practices)* *Emphasis on 'community assets' (created through public works)* *Leveraging watershed guidelines*
"it is important to tell you about the primary objective of the PSNP programme when it first started. It was set up to support drought-prone areas in Ethiopia where there is a lot of land degradation. It was designed to smooth consumption, through cash or food transfers, in exchange for public works. The public works were designed to rehabilitate the environment and improve livelihoods. This is where there is a clear link to climate change adaptation – the PSNP has always been environmentally-friendly."	

"…the whole climate vision, you know, of… efforts to mainstream climate… really rested on the public works component of the programme – yet… at least some donors were of the view, well actually, this is a social transfer programme, and you know, public works, is sort of, there to make this… you know, more palatable to… well, not least the Ethiopian government which has always had this misplaced hang-up on this dependency syndrome and doesn't want to give out these 'handouts' – and [the programme targets] poor people, and they have to do something in exchange for getting food or cash."

"PSNP is obviously an assets-building programme – […] I'm not sure that they do sole cash transfers – or if they do, that's not where climate integration is working […]. It's not shock responsive social protection in that way, it's more adaptive social protection."

"And they're trying to work more and more on climate-smart initiatives – like, […] if you do public works, building up community assets that are a little more resilient to drought, and water storage […].

"So the outputs to stocktake were: vulnerability indices, which had the ability to identify hotspots, identify hotspots that are classified as areas where there was projected rainfall deficit, and high socioeconomic vulnerability – you know sensitivity, capacity – so that was one key deliverable. Another key deliverable was the rash of technologies and practices that were there. We got them to detail how the technologies – that was our main [role] – how the technologies or practices, reduce vulnerability, increase the resilience of assets constructed – and assets is broadly defined – and reduce emissions."

"So I would think for the future now, we will think of this as much as a climate change adaptation programme, as a watershed rehabilitation programme, more or less equal. Not just climate adaptation, but mentally we'll think of it more or less, 50-50, I think."

5.3.4 Learning from (and 'killing') MERET

As reflected in Paper 2 (Chapter 4), part of my discourse analysis has involved contextualising how efforts to 'climate-smart' the PSNP are unfolding (with their focus on public works) by going back to the 'founding story' of the PSNP: the Government's intention to step away from the cycle of dependency on humanitarian aid; and its history of environment-related food-for-work programmes.

Echoing the desire for Ethiopia to become a self-reliant country, those involved in the design of the PSNP recalled firm Government opposition to distributing 'free handouts' to PSNP participants, believing this would create dependency and incentivise wasteful consumption. Such concerns were not unique to Ethiopian policymakers at the time, as the safety nets agenda was only beginning to gain real traction within the international development community (Ellis et al., 2009). The experience over the past two decades of social protection programmes around the world now suggest this belief to be unfounded, however (World Bank, 2018b). Yet, as foreign actors engaged with the PSNP expressed to me, in Ethiopia, the dependency narrative that influenced the initial design of the PSNP was and remains present:

> "… [the] public works [component], is sort of, there to make this… you know, more palatable to… well, not least the Ethiopian government which has always had this misplaced hang-up on this dependency syndrome and doesn't want to give out these 'handouts'. [The PSNP targets] poor people, and they have to do something in exchange for getting food or cash." (IC-5)

> "In the political economy of social protection, you have to have public works, because no one likes to give anything away for free – and in all countries, the poor are seen as lazy, and… all of these things. And dependency is a big challenge here." (DR-1)

> "… amongst some of the stakeholders [there is a] feeling that we should encourage the government to think beyond public works. I'm slightly of the view of 'good luck with that!' [laughs] – because I don't think the government has changed very much in the last 14 years." (MLA-1)

Having the PSNP be a public works programme was meant to address this concern over creating dependency: people would have to work to receive cash transfers. But more than this, it supported a key aspect of the Ethiopian development paradigm, as one of my key informants put it:

> "I think that it's important to bear in mind […] – that even though the PSNP is primarily interested in asset design, as supporting people to develop assets, the nature of development in Ethiopia […] is such that this watershed management –

natural resource regeneration of watersheds – has been the dominant framing of development interventions in Ethiopia for a long, long time." (IC-2)

The World Food Programme (WFP) 's MERET project – a food-for-work programme with environmental rehabilitation objectives – came up often in conversation as having inspired the design of the PSNP. As mentioned in Paper 2, the community-based watershed planning guidelines that the Government developed and that became an important justification for the PSNP's focus on environmental rehabilitation had also been directly informed by the MERET experience:

"[There were] years and years and years of experience from MERET with the government – the Ministry of Agriculture – trying to determine a modus operandum for improving the biophysical environment – so that smallholder farming could become viable again – it was becoming non-viable, and all these people are farmers and they're starving, so small-scale agriculture wasn't working." (MLA-3)

"WFP had been doing a lot of work through their MERET programme – so they had been doing some very high policy food-for-work programmes, using the watershed approach and had done quite a lot of work working with government, developing some watershed planning guidelines. And so the PSNP, said, right that piece of work – particularly the watershed planning – that's going to be the safety net approach." (MLA-1)

What would distinguish the PSNP from MERET, in the end, was that the PSNP was to operate at scale:

"Here at last was an opportunity to scale up the MERET programme across the whole country – make a quantum change in the state of the natural resource base, which would make small scale farming viable for these millions of families." (MLA-3)

"In the end, MERET was a bit of a loser, because people stopped giving money to MERET to implement PSNP. [MERET] was doing nice, but slightly– but inoperable in scale. So I think donors were prepared to take the compromises of the PSNP to operate at scale. And MERET in some ways lost– in my view, lost its way." (MLA-1)

The 'compromises' that the respondent above mentions relate to the observation that the PSNP never has been, or intended to be, as technically robust as MERET, in terms of following the watershed approach:

> "MERET used to […] work in the villages, in the rural areas; we'd have to utilise ordinary government staff. So [the PSNP] was not a rolls Royce – you know the MERET was Rolls Royce, ours was like a Volkswagen or something like that [laughs]. Without the attention to detail that—you know, MERET would put excellent technical people semi-permanently in the *kebele*, to actually live there – we couldn't do that. But we could train the government staff to do a reasonable job. So that's what we designed." (MLA-3)

> "I'm going to be really honest – [the watershed guidelines] are conceptually really important, in practice they are about 250 pages [laughs]! And it's an interesting thing that something can be conceptually very important even though nobody is actually following them." (MLA-1)

> "MERET efficiency was high. It was a successful programme. But PSNP killed MERET – government was weak – politicians in Ministry of Agriculture don't understand the guidelines." (NC-7)

5.3.5 How different is the 'climate-smart' PSNP?

These perspectives about MERET's influence on the PSNP has showed that the approach taken by the PSNP to contribute to climate action through highly technicalised environmental rehabilitation-related public works is not novel (and, as I examine in Paper 2, MERET itself built on lessons from past food-for-work). In fact, my informants generally agreed that the PSNP underwent little change to acquire its 'climate-smart' label:

> "Climate mainstreaming is happening now. But even though climate change is not explicitly acknowledged, PSNP can be considered as a climate resilience programme." (GR-1)

> "PSNP through its public works and livelihoods to a certain extent has been building climate change resilience – it's not very well documented, … and they know that

there are a lot of outcomes that haven't been properly reported – CSI was meant to capture that." (NC-5)

"CSI changed little in what was going on before… the public works are not taking account of future climate projections for different parts of the country – […] it's very generic." (NC-7)

Indeed, the Project Implementation Manual for PSNP-4 includes only very general statements about the safety net's contribution to climate resilience (FDRE, 2014b), even though the (initial) CSI's objective had been to influence PSNP-4's design (see Section 5.3.2). This supports the assessment of the PSNP as undertaking merely 'serendipitous' adaptation, as discussed earlier. What the CSI undoubtedly did succeed in doing, however, is to contribute strongly to the PSNP's reframing as a 'climate-smart' or 'adaptive' programme that counteracts adverse effects of climate change in Ethiopia.

5.4 Policy narratives

The above analysis has led me to delve deeper into the politics of *why* the PSNP is being reframed as a 'climate-smart' programme, or, to put it another way, why the public works component of the PSNP are being further entrenched in the name of rendering the PSNP 'climate-smart'. Already from my key informant interviews, I began to get a sense of what climate change and development narratives are operating at the national level in Ethiopia and how they are used to rationalise the 'climate-smart PSNP' agenda. Through my analysis of policy documents, I have been able to consolidate these narratives into the two overarching ones I describe in my paper: moral climate leadership, and green growth. To help illustrate my analytical process, Boxes 5.3 and 5.4 provide examples of excerpts from Ethiopia's key climate change documents, namely:

- The Climate Resilient Green Economy (CRGE) Strategy (FDRE, 2011a);
- The Climate Resilience Strategy: Agriculture and Forestry (FDRE, 2015a);
- The Intended Nationally Determined Contribution (INDC) (FDRE, 2015d)[9];

[9] Upon Ethiopia's ratification of and the coming into force of the Paris Agreement, the INDC became Ethiopia's Nationally Determined Contribution (NDC).

- The National Adaptation Plan (NAP) (FDRE, 2019);
- The Nationally Adaptation Programme of Action (NAPA) (FDRE, 2007);

As well as its (then) current development plan:

- The 2nd Growth and Transformation Plan (GTP-2) (2015-2020) (FDRE, 2016).

Box 5.3: Excerpts from documents (1)	
THEME	*Moral leadership on climate change*
CODES	*Government leadership (including Meles Zenawi as champion)* *New sources of finance* *Urgency (climate change)* *Ethiopia's vulnerability to climate change (as a poor country)*
"We are committed to effectively transforming Ethiopia into an early adopter of a low-carbon growth path by 2013, and our CRGE initiatives are already being translated into investment-ready projects in the four key sectors." (CRGE Strategy, Foreword by Meles Zenawi) "Our goal is quickly to improve the living conditions of our people by reaching a middle-income status by 2025 based on carbon-neutral growth. […] Our country is well positioned and moving fast to contribute to developing a green global economy, the environmental legacy and commercial benefits of which will endure long into the future." (CRGE Strategy, Foreword by Meles Zenawi) "Despite being a Least Developed Country, Ethiopia has already placed itself on the path to undertake a substantial national program of climate action, outlined in the Climate Resilient Green Economy Strategy (CRGE)" (INDC, p. 7) "Ethiopia is highly vulnerable to drought. Drought is the single most important climate related natural hazard impacting the country from time to time. Drought occurs anywhere in the world but its damage is not as severe as in Africa in general and in Ethiopia in particular. Recurrent drought events in the past have resulted in huge loss of life and property as well as migration of people. The other climate related hazard that affects Ethiopia from time to time is flood. Major floods which caused loss of life and property occurred in different parts of the country in 1988, 1993, 1994, 1995, 1996 and 2006." (NAPA, p. 5) "Major emphasis is given to building a climate resilient green economy in the context of sustainable development and realizing the vision of becoming a lower middle-income country by 2025. In this regard, Ethiopia is pioneer in formulating and implementing the climate resilient green economy strategy. Accordingly, enhanced efforts will be made in areas of improving crop and livestock productivity to ensure	

food security through reducing emissions; protecting forests and re-afforestation including carbon stocks; expanding electricity generation from renewable sources of energy; and leap-frogging to energy efficient technologies in transport, industry and construction during GTP II period." (GTP-2, p. 80)

Box 5.4: Excerpts from documents (2)

THEME	*Green growth*
CODES	*Agricultural productivity for building resilience to climate change* *Climate change as a threat to growth* *Population as labour supply* *Population growth as problematic*

"Ethiopia aims to achieve carbon-neutral middle-income status before 2025. As set forth in the national Growth and Transformation Plan (GTP), this leap will require increasing agricultural productivity, strengthening the industrial base, and fostering export growth." (CRGE Strategy, p. 6)

"There are enormous untapped opportunities for action on climate change in Ethiopia and, for that matter, Africa as a whole that we can now begin to seize with international support on financing, infrastructure, and execution capacity." (CRGE Strategy, Foreword by Meles Zenawi

"This resilience strategy for agriculture and forestry has been developed as part of the CRGE strategy. It shows that economic growth must be protected against the impacts of current and future climate change. The agriculture and forestry sectors are key to both national income and household livelihoods. Combined, the sectors make up over two-fifths of the national economy (43% of our Gross Domestic Product (GDP)) and employ the vast majority (around 80%) of the country's population. Due to reliance on rain-fed techniques, agriculture is highly vulnerable to weather and thus to future impacts of climate change. Also, future climate change is expected to pose significant impacts on the productivity of our forests." (Climate Resilience Strategy: Agriculture and Forestry, p. 2)

"Alongside the future changes in climate, it is also necessary to consider future socio-economic trends. Our country is changing rapidly, and population and wealth will affect future vulnerability. Indeed, previous studies show that these non-climate drivers are as important as climate change. The most important trends relate to future population and economic growth. The population of Ethiopia is expected to increase from 84 million in 2013 to 100 million by 2020, 120 million by 2030 and 145 million by 2050, though growth rates fall in later years. Economic growth, anticipated in the

GTP, will also serve to build resilience." (Climate Resilience Strategy: Agriculture and Forestry, p. 36)

"Climate and development are strongly interlinked. Well-designed policies in these areas can make growth and climate objectives compatible and mutually reinforcing in both the short and medium term. In the long term, if climate change is not tackled, growth itself will be at risk. Ethiopia is currently in a very strong position of having very low emissions per capita, huge renewable heat and electricity resources and the opportunity to address climate risks into the short term that result from out-dated fossil fuel technology and seek clean and renewable alternatives. The Government has recognized this and plays a leading role in driving the climate resilient green economy agenda." (GTP-2, p. 92)

My discourse analysis has then involved examining how these two climate change narratives are themselves a continuation of existing development narratives, as was also already being hinted at in my interview data (as discussed in Chapter 2, Section 2.3.2, discourse analysis is undertaken through an iterative process of analysing and re-analysing a combination of data). Through my interviews, for instance, it became clear that one could not discuss how the PSNP is 'climate-smart' without touching upon the founding story of the PSNP itself. This founding story, as I recount in Paper 2 and have also mentioned earlier in this chapter, is one about a history of recurring famine and severe dependency on humanitarian aid, and the determination of Ethiopia's then Prime Minister to deliver on the promise of food security. The Government's moral leadership on climate change, I find, is a continuation of this political process to shed Ethiopia's past image of a 'basket case', and to reassume its position of African leader on the geopolitical stage. Importantly, discourses of extreme vulnerability to 'natural disasters' (namely drought), together with the historical responsibility of rich nations for causing climate change, are contained in its climate policies as well as in the statements of its leaders at climate summits such as COP-21 in Paris. As I show in Paper 2, these have the power to shift the blame for Ethiopia's continuing food insecurity on climate change, and on the actions of high-polluting nations (see Sections 4.4.3 and 4.4.4).

As already alluded to, it also became clear through my interviews that Ethiopia's history with public works is an important factor influencing the 'climate-smart' PSNP agenda.

This has led me to analyse policy documents related to Ethiopia's development policy before and at the time of the PSNP's implementation. It became clear to me then how strongly today's green growth narratives echo past development ones. Take, for example, the excerpts contained in Box 5.5 from the following documents:

- The Sustainable Development and Poverty Reduction Programme (SDPRP) (FDRE, 2002);
- The Plan for Accelerated and Sustained Development to End Poverty (2005-10) (PASDEP) (FDRE, 2005);
- The National Employment Policy and Strategy (FDRE, 2009b); and
- The Food Security Programme (2010-14) (FDRE, 2009a); and
- The (first) Growth and Transformation Plan (GTP-1) (2010-15) (FDRE, 2010):

Box 5.5: Excerpts from documents (3)	
THEME	*Governing livelihoods and landscapes to fuel economic growth*
CODES	*Agricultural as an engine for growth* *Natural resource degradation as driver of food insecurity and poverty* *Population as labour supply* *Population growth as problematic* *Fuelling the industrial transition*
"Ethiopia's existing realities reveal that there is an acute shortage of capital. In contrast, the country is endowed with a large number of working age population and a potentially cultivable land although land is still relatively scarce in some part of the country, particularly the northern and central high lands. It is believed that faster growth and hence economic development could be realized if the country adopts a strategy that help raise the employability of our labour resources and enhance productivity of land resources aimed at capital accumulation. Pursuing a development strategy that does not make extensive use of the manpower and intensive use of the land resources forfeits the considerable contribution that these resources could make to growth and capital accumulation." (SDPRP, p. iii) "Agriculture plays a significant and decisive role in the social and economic development of the country. However, owing to natural and man-made causes the country has not properly benefited from its abundant natural resources conducive to agricultural development, and consequently failed to register the desired economic development that would enable its people pull out of the quagmires of poverty" (PASDEP, p. 67)	

"High population density in large areas of the country has created negative impact on agricultural production and environmental security. Studies show that due to increasing human and livestock population pressure on arable land and forest resources, in large areas of the country, particularly on the northern and central highlands, have been exposed to loss of fertility, degradation and ecological imbalances. […] Furthermore, deforestation and soil degradation are major causes for food insecurity and poverty in Ethiopia; most of these arise from human and livestock pressures on land, leading to environmental degradation." (PASDEP, p. 169)

"The key challenges, therefore, is to ensure rapid and sustained growth in land and labour productivity, thus setting a strong foundation for sustaining growth. The rapidly growing Ethiopian population is an added challenge." (PASDEP, p. 40)

"The overwhelming fact of the labour market in Ethiopia is the rapid growth of labour supply. The labour force is growing much more rapidly than the population as a whole because of the young dominated demographic profile. There are many more under 15 years old entering the work force each year than there are old people living the labour force." (National Employment Policy and Strategy, p. 1)

"Land degradation due to high population density in rural areas and the emerging trends of adverse climate change (mainly drought) may contribute to growing rural-urban migration and displacement patterns of people. Although the poverty impacts of rural-urban migration could be positive and desirable in the long-run, the short-term impacts of such forced displacement are considerable, making it necessary to put emphasis on environment protection and resource conservation practices." (National Employment Policy and Strategy, p. 48)

"Agricultural Development Led Industrialization: ADLI is seen as a long-term strategy to achieve faster growth and economic development by making use of technologies that are labour using, but land augmenting, such as fertilizer and improved seeds and other technologies. But the extremely small ratio of urbanization of the country threatens to make inadequacy of domestic demand a critical constraint. This implies that agriculture has to be made internationally competitive, and that part of its production has to be oriented towards exports." (Food Security Programme, p. 10)

"Ethiopia's narrow industrial base is a major constraint on the nation' s ability to generate foreign exchange and create job opportunities for its growing labour force. In the GTP period, the industrial sector will receive the highest level of support for export oriented and import substituting industries." (GTP-1, p. 23)

Discourses around the need to take advantage of surplus labour supply and to manage land resources, in order to fuel rapid, agricultural sector-led economic and industrial growth, come through strongly in the quotes in Box 5.5. As also reflected in Box 5.5, underlying some of these quotes are accompanying narratives of traditional practices of farming and raising livestock as having been detrimental to the country's natural resource base. Another excerpt from the National Employment Policy and Strategy, for instance, states:

> "Land degradation due to high population density in rural areas and the emerging trends of adverse climate change (mainly drought) may contribute to growing rural-urban migration and displacement patterns of people. Although the poverty impacts of rural-urban migration could be positive and desirable in the long-run, the short-term impacts of such forced displacement are considerable, making it necessary to put emphasis on environment protection and resource conservation practices." (FDRE, 2009b: 48).

As I argue in Paper 2, these narratives thus provide a seemingly apolitical rationale for the State to promote public workfare as a technically sound solution to address the interrelated problems of environmental degradation, food insecurity, a fast-growing population, and poverty. I also show that these narratives are not new; they were also used by past political regimes to legitimise top-down food-for-work programmes that advanced controversial land reforms.

Through such an iterative process of combined thematic and discourse analysis, I am able to place efforts to 'climate-smart' the PSNP into its historical context. Doing so has allowed me to argue that as long as the 'climate-smart' PSNP continues to be shaped solely by such historically produced, politically driven narratives on climate change, it will be unable to foster transformative outcomes for its participants.

CHAPTER 6

Does Ethiopia's safety net geographic footprint align with climatic and conflict risks?

Abstract

Ethiopia's flagship 'Productive Safety Net Programme' (PSNP) entered its fifth phase of implementation in 2021. After more than fifteen years, the Government reoriented the programme's targeting of *woreda*s (districts) with a history of food insecurity, to prioritising those experiencing 'extreme poverty through shocks' – particularly drought. In doing so, it has branded the PSNP as an 'adaptive' safety net. The focus of the 'adaptive social protection' policy agenda, however, extends beyond responding to biophysical risks associated with climate variability and change; it also seeks to address non-climatic, contextual factors underpinning relational vulnerability to climate change. This study asks whether the PSNP's system of geographic targeting at the start of its fifth phase aligns with this more comprehensive framing of 'adaptive social protection'. Using binary logit regression analysis, it assesses whether the PSNP-covered *woreda*s are those most exposed to three major risks in the country: drought, flooding, and political conflict. I find that, controlling for poverty headcount rate and population density, PSNP coverage is positively associated with districts experiencing higher year-to-year drought conditions, yet *woreda*s with higher multi-year drought variability are less likely to be covered. I find no relationship between PSNP coverage and exposure to flood risk, which is unevenly distributed across the country. Whilst the programme is currently well-targeted toward districts facing disproportionately high levels of political insecurity, this association disappears if the recent escalation of conflict beginning in 2020 is disregarded. As such, this study points to risks that PSNP administrators need to be more attentive to as they consider expanding the programme's geographical footprint to become more 'adaptive'. Doing so could better support the strengthening of PSNP participants' long-term resilience to climate change.

6.1 Introduction

Ethiopia, with its flagship Productive Safety Net Programme (PSNP), has long been considered a leader on social protection. Now, more than fifteen years since its establishment, as climate change has become a lived reality for its participants, the Government has branded it an 'adaptive' safety net: a programme that aims to build the resilience of households living in extreme poverty due to livelihood shocks.

'Adaptive social protection' is a concept that has gained much traction in recent years, among climate and development practitioners and scholars alike. But whilst the policy agenda, as it is developing, has focused overwhelmingly on adjusting social protection programmes like the PSNP to better manage climatic risks with asset transfers, the concept was originally based on a more holistic understanding of what shapes vulnerability. It highlighted the need to understand the specific contexts within which climate hazards occur, which shape why certain segments of the population are more vulnerable to them than others. By also addressing underlying, social and political drivers of vulnerability — such as inequality and marginalisation — adaptive social protection can thus contribute to transforming livelihoods and strengthening people's resilience, in the long-term.

But to what extent does Ethiopia's PSNP reflect this more comprehensive framing of adaptive social protection? This paper approaches this question by focusing on the programme's district-level, geographical alignment with the spatial distributions of drought, flooding and conflict risks. Drought and flooding are the two major biophysical climatic hazards in the country. Proximity to conflict is just one example of a socio-political factor contributing relational vulnerability to climatic change, but one that is crucial to consider given the recent escalation of civil unrest in the country. Using binary logistical regression analysis, I examine how the likelihood of a district being covered by the PSNP changes given its exposure to these different risks.

6.2 An 'adaptive' PSNP? Case selection, research aims, literature gap

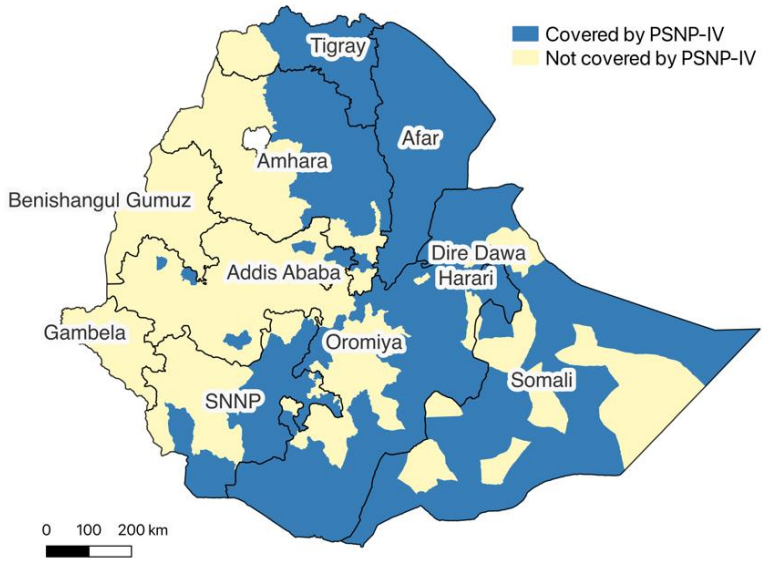
6.2.1 Ethiopia's Productive Safety Net Programme (PSNP)

The Government of Ethiopia – with support from bilateral and multilateral development partners – launched the PSNP in 2005 in an effort to break away from the cycle of annual emergency aid appeals for addressing the country's widespread and chronic food insecurity (Lavers, 2019; Tenzing & Conway, 2022; The IDL Group, 2008). The programme has since been providing food and/or cash transfers to 2.5 million households in need in select *woreda*s (districts) (World Bank, 2018a). While those without labour capacity receive unconditional 'direct support' transfers, approximately 80% of households supported by the PSNP are required to participate in labour-intensive public works in exchange (FDRE, 2020b).

The PSNP has evolved since inception, and in 2021, it entered its fifth phase of implementation (PSNP-5). As was done in the past, PSNP-5 builds on lessons from prior phases by making some adjustments to its programming. One such change is a shift in focus from chronic food insecurity to 'extreme poverty through shocks' as its overarching targeting criterion (FDRE, 2020b). Up until 2020, the first-stage selection of *woreda* to be covered by the programme was based on food aid allocation data from the previous three years (Berhane et al., 2014; World Bank, 2020)[10]. Figure 6.1 shows where the PSNP was operating in 2017.

[10] The three-stage process of selecting which households will receive support from the programme following *woreda* identification remains the same: i) the Ministry of Agriculture, in consultation with regional governments, agree on the caseload per *woreda*; ii) *woreda*-level administrators then determine which *kebele* (ward) should be included in the programme; iii) a system of community-based targeting at the *kebele*-level finally identifies which households (if not all) should participate in the programme (Berhane et al., 2014; World Bank, 2020).

Figure 6.1: *Woreda*s covered by the PSNP in 2017, during its 4th implementation phase (2015-2020). Adapted from UN OCHA (2017).



PSNP-5, however, intends to target *woreda*s (and subsequently, households) that are the most *drought-prone* rather than *food insecure*. Its Programme Implementation Manual (PIM) (FDRE, 2020b) says this shift responds to recent analysis by the World Bank (2020), which showed that while food insecurity has fallen rapidly in Ethiopia between 2005 and 2016, extreme poverty for the poorest 10% has deepened in certain regions. Drought may play a role in this situation, but it is complex. For example, the World Bank's Ethiopia Poverty Assessment (World Bank, 2020) reports that in 2016, drought-prone lowlands in Oromiya and the Southern Nationalities, Nations and Peoples (SNNP) region had the highest poverty rate (at 32%). However, this report also notes that drought-prone highlands of Tigray and Amhara had the lowest poverty rates (at 21%) that year, while moisture-reliable highlands (where the population is concentrated) accounted for the bulk of the poor (close to 60%) (World Bank, 2020). This suggests that the PSNP's specific targeting of drought-prone *woreda*s is not entirely consistent with poverty distribution; nevertheless the intention to prioritise responding to drought-related shocks on livelihoods is explicit in PSNP-5.

Related to this, a notable new aspect of PSNP-5 is that it is branded an 'adaptive' safety net (FDRE, 2020b). While its 'General Programme Implementation Manual' does not define 'adaptive,' one can infer from the growing academic and policy literature on the

emerging 'adaptive social protection' agenda why it describes the PSNP as such (Bowen et al., 2020; Davies et al., 2009; Tenzing, 2020). First, it underlines the overall programme objective as enhancing the resilience of participating households, where 'resilience' is defined as "the ability of households and communities to absorb and recover from shocks, whilst positively adapting and transforming structures and means of living in the face of long-term stresses, change and uncertainty" (FDRE, 2020: 16). Second, it specifies that these shocks can be idiosyncratic, such as sudden loss of income, illness, or crop failure, which typically affect a single household; or covariate, affecting many people simultaneously, as with climate-related shocks – and notably, drought. For such covariate shocks, the PSNP can temporarily scale up its support to protect the consumption and assets of its participants, as well as those who are not regular recipients of transfers, if necessary. Finally, the PSNP's principal feature – its public works component – is said to reduce disaster risk and build longer term community resilience to shocks, particularly climate-related ones through their environmental rehabilitation objectives. As such, the PSNP considers itself to be 'adaptive' because it aims to support vulnerable populations experiencing climatic risk and shocks.

In fact, the PSNP is increasingly regarded to be a model for 'adaptive social protection' in climate change and development policy circles more broadly for these same reasons (Tenzing & Conway, 2022). Some have even hailed it as "Africa's largest climate-resilient programme" (European Commission, 2015). As such, the PSNP experience responding to climate change has important bearing on how the 'adaptive social protection' concept is understood and how this emerging agenda takes shape beyond Ethiopia.

6.2.2 Addressing biophysical and social drivers of climate vulnerability through 'adaptive social protection'

The 'adaptive social protection' policy agenda is indeed still evolving. However, it has thus far been overwhelmingly concerned with making technocratic adjustments to existing social protection programmes so that they are better able to manage *biophysical* risks associated with climate change, just as the PSNP seeks to do (Tenzing, 2020). Calls for better integration of climate information and early warning systems to

determine how much, to whom and when social protection programmes should provide scaled up support when a shock is expected have dominated the literature (Bowen et al., 2020; Daron et al., 2021). This approach certainly has merit, given the impact climate change can have on development progress achieved through social protection (Hallegatte et al., 2016). Conway & Schipper (2011), for instance, show that potential increases in the number of beneficiaries affected by drought under drier climate projections in Africa should prompt the PSNP to address climate risks over the long-term, particularly its financial capacity to absorb additional beneficiaries adversely affected by slow-onset climate change.

Yet, such a framing of 'adaptive social protection' is also limiting, as it perpetuates a narrow interpretation of vulnerability as the result of direct exposure to changing hazards. In other words, it ignores how vulnerability is also shaped by the specific contexts within which these hazards occur (K. O'Brien et al., 2007; Ribot, 2011, 2014). As critical scholars of climate change and development have long argued, these social, economic and political contexts are what underpin people and societies' *differentiated* capability to anticipate, absorb, and adapt to risks (Bahadur et al., 2015; Eriksen et al., 2015, 2021; K. O'Brien et al., 2007; Paprocki, 2021; Watts, 2015). Ironically, when they first developed the concept in the late 2000s, Davies et al. (2009) saw 'adaptive social protection' as an opportunity to actively address such underlying drivers of vulnerability to strengthen long-term resilience to climate change. They emphasised its potential to transform livelihoods particularly by redressing structural inequalities and empowering marginalised communities (Arnall, Oswald, Davies, Mitchell, & Coirolo, 2010). However, this important social dimension of the agenda continues to be overlooked as it develops and begins to be implemented at scale (Béné et al., 2018; Naess et al., 2022; Tenzing, 2020).

6.2.3 Research aims

This paper examines the extent to which the PSNP aligns with this more comprehensive understanding of 'adaptive social protection'. It assesses how its system of geographical targeting – the first step in the process that determines which households will ultimately be included in the programme – is sensitive to three different risks which rural

Ethiopians increasingly face: drought, flood, and conflict. While other safety nets (particularly the Humanitarian Food Aid (HFA) intervention that responds to acute food insecurity) operate in areas not covered by the PSNP (World Bank, 2020), the PSNP is the country's flagship programme, serving 8 million households, and the most institutionalised within government systems. It is also currently the only one with an 'adaptive' objective.

Drought and floods are biophysical hazards that Ethiopia's national climate change policy architecture identifies as posing major threats to the population and economy, particularly its agriculture sector that employs over 80% of the population and contributes 43% of GDP (FDRE, 2015a). The World Bank reports that seven million Ethiopians are at risk of food insecurity due to these hazards, with severe drought alone having the potential to shrink farm production by up to 90% (GFDRR, 2019). Droughts in East Africa are reported to have become more frequent, longer and more intense since the early 2000s, and tend to continue across the region's main rainy seasons (Nicholson, 2017; Trisos et al., 2022; Wainwright et al., 2019). At the same time, there is high confidence that intense rainfall and flooding events will increase in frequency under climate change (Niang et al., 2014; Trisos et al., 2022). The most frequent livelihood shock reported by PSNP households corresponds to drought, followed by flooding (Berhane et al., 2013); but whilst targeting drought-prone *woreda*s is a stated objective of the PSNP, the safety net is not explicit in its attention to floods.

Conflict, meanwhile, represents a social risk that has long been present in the country and which has been escalating in recent years. Increasing attention is being paid to the complex connections between conflict and climate change, focusing predominantly on how the latter might contribute to the former (Abrahams & Carr, 2017; Froese & Schilling, 2019; Ide, 2017; Raleigh, Choi, & Kniveton, 2015; Raleigh & Kniveton, 2012; Raleigh & Urdal, 2007; van Weezel, 2020). Yet, the presence of conflict is also a critical determinant of vulnerability to climate change, and often overlooked in climate responses (Abrahams & Carr, 2017; Adger et al., 2014; Intergovernmental Panel for Climate Change, 2022; Naess et al., 2022; Scheffran, Brzoska, Kominek, Link, & Schilling, 2012; Tänzler et al., 2013). The outbreak and persistence of conflict not only affect communities' resilience to shocks and stresses (for example, by causing physical harm

or psychological distress, affecting access to resources, critical infrastructure, essential services, or markets, and impacting one's ability to plan for or invest in the future) and increase their support needs; but they also prevent or delay climate action and long-term investment in affected areas (Adger et al., 2014; Eriksen et al., 2021; Naess et al., 2022; C. O'Brien et al., 2018; Peters, Mayhew, Slim, van Aalst, & Arrighi, 2019).

By focusing on how far PSNP coverage reflects the *woreda*s most exposed to drought, flood and conflict, this study thus takes a first step in assessing how 'adaptive' the safety net is towards two different biophysical risks and one social risk, each contributing to rural populations' vulnerability to climate change. I acknowledge that the consideration of other risks might also be more appropriate. Conflict incidence, for instance, is only one example of a social determinant of vulnerability; and whilst it is a reliable indicator for fragility and security in a given *woreda*, it does not adequately capture social cohesion or marginalisation among the disparate groups within them. Yet, measuring this is difficult. My aim is that the results and conclusions of this paper form a basis for future evaluations of efforts to implement 'adaptive social protection.'

6.2.4 Literature review

Numerous studies in the PSNP's lifetime have sought to evaluate its impact, particularly in terms of food security. Early evaluations suggested that the programme had modest effects on the livelihoods of people it supports, due partly to the low level of transfers it had been providing, but a visibly larger impact when combined with complementary services to improve agricultural productivity (hence why the PSNP later incorporated a livelihoods component) (D O Gilligan et al., 2009; Hoddinott et al., 2012). Some also found that the programme's design was less suited to pastoral livelihoods and therefore it operated less well in dryland regions (Sabates-Wheeler et al., 2013). However, many argued that despite these limitations, the PSNP has succeeded over the years in its primary (and original) objective to prevent famine and reduce chronic food insecurity (Berhane et al., 2014, 2013; Coll-Black et al., 2013). More recent studies are similarly divided. Many remain critical of the PSNP's long-term effectiveness (Adimassu & Kessler, 2015; Azadi et al., 2017; Bahru, Jebena, Birner, & Zeller, 2020; Dejene & Cochrane, 2021; Sabates-Wheeler, Lind, Hoddinott, & Tefera Taye, 2021) or the manner

in which it can be co-opted for political purposes (Cochrane & Tamiru, 2016; Tenzing & Conway, 2022). Others find that recipients of PSNP transfers do tend be more food secure (including following shocks) than those who are not participating in the programme (Dasgupta & Robinson, 2021; Knippenberg & Hoddinott, 2017; Welteji, Mohammed, & Hussein, 2017).

A growing body of literature has also sought to assess the PSNP's contribution to climate action more specifically. Some research finds the ecosystem restoration activities undertaken through its public works component have mitigation co-benefits, and argues that such potential for scaling up nature-based climate action through the PSNP should be further harnessed (Norton et al., 2020; Woolf et al., 2018). Other scholars examine its contribution to adaptation and resilience. They suggest that the PSNP does protect households from adverse effects of climate change in the short term through the provision of well-implemented and regular transfers; however, the safety net has not enabled households to enhance their resilience to climatic shocks and stresses in the long-term, for example by diversifying their livelihoods to productive, non-farm activities (Béné, Devereux, et al., 2012; Duguma, 2019; Ulrichs et al., 2019; Weldegebriel & Prowse, 2013). They therefore underline the importance of complementary interventions to build longer-term resilience to climate risks (Duguma, 2019; Ulrichs et al., 2019). Some studies, however, warn of unintended, maladaptive outcomes arising from PSNP support. Weldegebriel & Prowse (2013) observe an increase in the extraction and sale of natural resources, which they interpret as a negative adaptation strategy that could further increase households' vulnerability in the longer term. Moreover, Mersha & van Laerhoven (2018) find that whilst the creation of community assets through the public works component increases non-PSNP households' capacity to adapt, that of PSNP households is constrained as a result of the labour and time investments the public works require. This is especially true for women, due to both the PSNP's prioritised targeting of female-headed households, as well as local gender norms and power asymmetries.

Although internal conflict in Ethiopia has escalated exponentially in the last two years, in the period between the PSNP's establishment and 2020, the country had generally been enjoying higher levels of political stability compared to its neighbours (Clapham,

2018). It follows that research on how the PSNP operates in or is impacted by fragile contexts is limited. An ongoing UK-funded research programme on 'Better Assistance in Crises (BASIC)' explores the broader question of how social protection can support poor and vulnerable people to cope better with crises (Institute of Development Studies, 2022). Within this body of work, Lind, Sabates-Wheeler, & Szyp (2022) describe how, in Tigray, personnel in charge of PSNP delivery were displaced or left unpaid for months, much of the infrastructure supporting cash payments (such as shops and banks) were shuttered or looted, and markets were no longer able to operate as a result of destroyed roads and bridges and rampant insecurity. As the authors note, this derailment of PSNP operations points to major challenges that social protection systems face because of conflict shocks. In another paper in the series, Naess et al. (2022) consider how insights and approaches to adapting social protection to climate change in politically stable settings (for which the literature is heavily biased towards) are translatable to fragile and conflict-affected ones. They stress that understanding the ways in which political violence, political divisions, attenuated legal and institutional regimes, displacement, the presence of humanitarian actors and the primacy of emergency assistance can shape vulnerability to climate change is critical to the design and delivery of climate-related social protection in fragile settings.

This paper contributes to these areas of research on the PSNP in several ways. It assesses how far its system of geographical targeting aligns with its new 'adaptive' objective. While existing literature on the PSNP's contribution to household climate resilience has focused on drought, this study also considers flooding as the second major and recurrent climate-related covariate shock that Ethiopians face. In addition, it provides a starting point for research on how 'adaptive' the PSNP is in the context of escalating conflict risks, which further contribute to people's vulnerability to climate shocks. Finally, it combines several datasets to offer a unique *woreda*-level analysis of PSNP coverage. I provide further detail about this in the section that follows.

6.3 Methodology and data sources

As PSNP coverage is a dichotomous variable, I use binary logistical regression (logit) models to assess its association with drought, flooding and conflict risks for each *woreda*, among other variables of interest. PSNP coverage in 2021 is represented by the response variable Y_i where

$$Y_i = \begin{cases} 1 & \text{if woreda } i \text{ is covered by the PSNP} \\ 0 & \text{If woreda } i \text{ is } \textit{not} \text{ covered by the PSNP} \end{cases}$$

The expected value of Y is the probability π that $Y = 1$.

The functional form of the logit model is represented as:

$$log\left(\frac{\pi_i}{1-\pi_i}\right) = \alpha + \beta_1 X_{1i} + \cdots + \beta_k X_{ki} = \alpha + \sum_{j=1}^{k} \beta_j X_{ji} \quad (1)$$

where α and β are the unknown parameters of the model to be estimated from my data. X represents a series of k explanatory variables for each woreda i.

The direction of association between explanatory variable X_j and response variable Y_i is reflected in the sign of coefficient β_j. A positive value for β_j shows that X_j increases the probability that $Y_i = 1$, while a negative value for β_j indicates that X_j decreases the probability that $Y_i = 1$.

As such, the logit model also implies the following model for probabilities π (2):

$$\pi_i = \frac{1}{1 + \exp[-(\alpha + \sum_{j=1}^{k} \beta_j X_{ji})]} \quad (2)$$

The results of logit models are typically interpreted in terms of odds ratios (OR). These are obtained by taking the exponential of the estimated coefficients $\hat{\beta}$. I present both estimated coefficients $\hat{\beta}$ and corresponding ORs in my main result tables (Section 4.4). Fitted probabilities calculated from Formula (2) at specific values for X_j help further illustrate the magnitude of the regression effects (Kuha & Lauderdale, 2017).

Finally, I determine which logit models have the best relative fit by performing sequential likelihood ratio (LR) tests on pairs of nested models. Two models are said to be nested when one is constructed by removing variables from the other (Kuha & Lauderdale, 2017). As part of this process, I test each variable X_j in a full, unrestricted model (i.e. using all variables of interest) against the null hypothesis $H_0: \beta_j = 0$ (no association between X_j and Y). Variables are dropped from the model one at a time if I fail to reject the null hypothesis at the 0.05 level of significance. As such, the LR tests also test the model's statistical robustness. Tables reflecting the estimated parameters of both the full and the final (best-fitting) models are presented in the results section of this paper (Section 4.4, Tables 4.2 to 4.4).

In this study, drought exposure, flood risk and conflict incidence are the main explanatory variables I include in the full models. I also include measures for poverty and population density as control variables, given PSNP-5's focus on poverty reduction and on rural areas specifically. I support my interpretation of model results with maps depicting the spatial distribution of my main variables of interest, by *woreda*.

The data I use to conduct this analysis are outlined below.

6.3.1 Administrative boundaries

The country's first-level administrative boundary is the regional state. There are nine of these – Afar, Amhara, Benishangul Gumuz, Gambela, Harari, Oromiya, Somali, SNNP region, and Tigray – along with two city administrations, Addis Ababa and Dire Dawa. The second-level administrative boundary is the zone, and the third is the *woreda*. It is important to note that Ethiopia's administrative boundaries – particularly at *woreda*-level, are not defined or agreed, and change over time: some *woreda*s split into smaller *woreda*s while others merge. For this study, I obtained administrative boundaries for Ethiopia constructed by the World Bank from various subnational mapping data used for its 2020 Ethiopia Poverty Assessment (World Bank, 2020), among other key analytical projects. These administrative boundaries data – which are not in the public domain – comprise 85 zones and 779 *woreda*s, not counting those within Addis Ababa and Dire Dawa. My research question and methodology require the use of

administrative boundaries to be consistent with PSNP coverage data (detailed in sub-Section 6.3.3); therefore, all other data I obtained, fitted or constructed for this study are specific to these administrative boundaries. While I plot the spatial distribution of my main variables of interest by *woreda*, the maps in this paper do not explicitly highlight *woreda* boundaries.

6.3.2 Poverty data

This study uses poverty headcount rates reported by the World Bank for each *woreda*, also used for the 2020 Ethiopia Poverty Assessment (World Bank, 2020). These data come from the 2015/2016 Household Income and Consumption Expenditure Survey, and were calculated using the World Bank's Small Area Estimation methodology (Corral, Molina, & Nguyen, 2020) at the Ethiopian national poverty line[11].

6.3.3 PSNP coverage

I obtained data on PSNP coverage by *woreda* for 2021 from the World Bank, which leads the coordination team of multilateral and bilateral donors providing funding for the PSNP. Currently, these data are not the public domain. Table 6.1 shows that except for Somali and Dire Dawa, the change in coverage per region from 2017 to 2021 does not exceed 10%. Some of the changes can be explained by PSNP-5's shift in focus from food insecure *woreda*s to those that experience extreme poverty through shocks, particularly drought. They can also reflect changing *woreda* boundaries, i.e. it is possible the *woreda* count has changed despite no actual change in household coverage from PSNP-4 to PSNP-5. 2017's PSNP caseload in Dire Dawa has been taken over by the Urban Productive Safety Net Programme (UPSNP), with the focus of the PSNP remaining on rural households (FDRE, 2020b).

The 2017 PSNP coverage map in Figure 6.1 thus provides a reasonable picture of where the PSNP was operating in 2021 as well. My analysis is based on PSNP coverage in 2021, the data for which correspond to the administrative boundaries I use.

[11] The national poverty line was 7,184 Birr per adult equivalent per year in December 2015 prices (World Bank, 2020).

Table 6.1: PSNP woreda coverage by region in 2017 (UN OCHA, 2017) and 2021 (World Bank, obtained for this study)

	2017 (PSNP-4)		2021 (PSNP-5)	
Region/State	**#**	**%**	**#**	**%**
Afar	32	100	30	91
Amhara	64	50	64	46
Benishangul Gumuz	0	0	0	0
Gambela	0	0	0	0
Harari	1	100	1	100
Oromiya	73	28	70	23
SNNP	79	58	77	52
Somali	32	60	25	37
Tigray	24	71	30	65
Dire Dawa	2	100	0	0
Total	307	44	297	38

6.3.4 Drought exposure

Peng et al. (2020) offer a high-resolution (5km) Standardised Precipitation-Evapotranspiration Index (SPEI) drought dataset (SPEI-HR) for Africa covering the 35-year period between 1981 to 2016. The SPEI calculation that the authors use was proposed by Vicente-Serrano, Beguería, & López-Moreno (2010) to account for temperature and evaporation effects on drought severity, while retaining the multi-scalar characteristics and simplicity of the Standardised Precipitation Index (Peng et al., 2020). As its name suggests, the SPEI is standardised, with a mean of 0 and a standard deviation of 1. Peng et al. (2020) constructed their SPEI-HR data using daily precipitation data from Climate Hazards group InfraRed Precipitation with Station data (CHIRPS) (Funk, Peterson, et al., 2015) and daily evaporation data from the Global Land Evaporation Amsterdam Model (Martens et al., 2017).

For this study, I compute SPEI-HR values for each of Ethiopia's 779 *woreda*s at 12-month and 36-month timescales, based on the coordinates of their centroids. Different timescales denote different types of drought corresponding to the period water deficits accumulate (Vicente-Serrano, Beguería, & López-Moreno, 2010). In this case, I distinguish the experience of year-to-year drought from longer-term, multi-year

drought for each *woreda* and assess their effect on PSNP coverage. Regardless of timescale, SPEI values within +/-1 indicate normal conditions, while those below -1 indicate dry conditions (Liu, Yang, Yang, & Wang, 2021). Using this threshold, for each *woreda*, I calculate the number of dry months from 2005 (when the PSNP was established) to 2016.

6.3.5 Flood exposure and population density

A study by Rentschler, Salhab, & Jafino (2022) offers high-resolution gridded flood exposure headcount estimates, constructed based on spatial flood and population density maps. This dataset accounts for all flood types relevant for Ethiopia, specifically fluvial flooding (which occurs when intense precipitation causes rivers to overflow) and pluvial flooding (which occurs when precipitation builds up beyond the ground's absorptive capacity). Fluvial and pluvial flood data are based on the 2019 version of Fathom flood hazard data which provide gridded flood depths and extents with a 3-arcsecond resolution (equivalent to 90 by 90-metre grid cells) derived from hydrological and digital elevation models (Sampson et al., 2015; Smith, Sampson, & Bates, 2015; Yamazaki et al., 2017). The dataset considers floods with a 100-year return period. Population density information is based on the WorldPop Global High Resolution Population dataset (WorldPop, 2022), which provides inhabitant numbers at a 3 arcsecond resolution, based on administrative or census-based population data, disaggregated to grid cells using settlement footprint information from satellite imagery (S Freire, MacManus, Pesaresi, Doxsey-Whitfield, & Mills, 2016; Sergio Freire et al., 2020). Rentschler et al. (2022)'s gridded flood exposure headcount estimates indicate the number of people per grid cell located in flood zones of different risk levels (i.e., different inundation depths). For this study, I aggregated grid cell level headcounts from Rentschler et al. (2022)'s dataset to the *woreda*-level to estimate *woreda*-level flood exposure.

6.3.6 Conflict exposure

The Armed Conflict Location & Event Data Project (ACLED) collects reported information on internal political conflict, disaggregated by date, location, and actor since 1997

(Raleigh et al., 2010).[12] The format of the data obtained for this study is event-based, so that each event appears only once. Their location is recorded as specifically as possible: events coded with a spatial precision level of 1 indicate that the coordinates of the town or city where the event is reported to have taken place are known; level 2 indicates that an event is reported to have occurred near a georeferenced town or within second or third-level administrative boundaries for which the coordinates of the capital are used; and level 3 indicates that an event is reported to have taken place in a larger region, for which the coordinates of the closest natural location is used or of the capital of the first-level administrative region if no other information is provided (ACLED, 2019). Events fall into one of six categories: battles, explosions/remote violence, violence against civilians, protests, riots, or strategic developments. 'Strategic developments' typically indicate non-violent but politically important incidents such as arrests, agreements, or non-violent transfer of territory, among others (ACLED, 2019).

From this dataset, I first obtain counts of events which occurred within each of Ethiopia's *woreda* between 1 January 2005 (coinciding with the PSNP's year of establishment) and 31 December 2021, and another set for the period between 1 January 2005 and 31 December 2019 (thus excluding the country's recent escalation of political instability and conflict). For the 2005-21 period, the ACLED reports 6,943 unique incidents[13]: of these only 3.4% have a spatial precision level of 3 (least precise), and 5% are categorised as 'strategic developments.' For the 1997-2019 period, there are 4,481 events[14], of which 4.4% have a spatial precision level of 3 (least precise) and 4.55% are 'strategic developments.' Given that they do not constitute a substantial share of the data, I choose to keep observations with spatial precision level of 3 as well as those coded as 'strategic developments'. Next, I construct new variables for each period, to reflect that households located close to administrative borders can be affected by conflict events occurring in neighbouring areas. For these, I count the number of incidents within a

[12] The ACLED's sourcing methodology for Ethiopia is available from https://acleddata.com/acleddatanew//wp-content/uploads/dlm_uploads/2021/04/ACLED-EPO_Sourcing-Methodology_April2021.pdf

[13] 21 of these incidents fall outside the national administrative boundaries used for this study.

[14] 8 of these incidents fall outside the national administrative boundaries used for this study.

woreda plus those occurring within 0.1 degree of its boundaries (equivalent to about 11km), noting that some events will be counted more than once.

6.3.7 Research and data limitations and alternatives

Spatial analysis constraints: A limitation of this study is that the unavailability or lack of consistency of spatial data constrained the scope of my research questions and methodology. As discussed, Ethiopian administrative boundaries are not fixed, and therefore numerous shapefiles exist reflecting different boundaries for each level. This means that unless available spatial datasets correspond to the same administrative boundaries, they cannot be joined with one another without substantially manipulating the data and compromising the validity of any results. Thus, whilst I have *woreda*-level PSNP coverage data for 2017, I am unable to merge or compare this in a meaningful way with my coverage data for 2021. I have therefore chosen to focus my research question on the more recent, 2021 PSNP coverage dataset because it provides a snapshot of coverage *at the start* of the implementation of PSNP-5, which, unlike previous phases of the programme, has been branded as 'adaptive' (FDRE, 2020b).

Missing food security indicator: Similarly, although I have obtained food security data from the Famine Early Warning Systems Network (FEWS-NET) which has informed PSNP coverage in the programme's previous implementation phases (FDRE, 2014b), these data are aggregated to the zone level and use a shapefile with district-level administrative boundaries that do not match my 2021 PSNP coverage data. This means that, although I can easily assign each *woreda* belonging to a zone its corresponding food security index value, I am unable to do so for the *woreda*s in my shapefile straddling two zones with different values. Taking the average is possible in theory, but as the FEWS-NET food security variable is categorical (i.e. integers between 1 and 5), this solution is imperfect as it renders 'impossible' values for many observations. Although I do not include this variable in any of my results tables for this reason, in preliminary analyses, food insecurity is, as expected, a reliable predictor of PSNP coverage by *woreda*.

Drought variable alternatives: With regards to my drought variable, Peng et al. (2020)'s SPEI-HR data give me a choice over various timescales (e.g. 1, 3, 6, 12, 24 or 36 months). As mentioned, different timescales denote different types of drought corresponding to the period water deficits accumulate (Vicente-Serrano, Beguería, & López-Moreno, 2010). For this study, I have chosen to use a 12-month timescale to correspond to the experience of year-to-year drought, and a 36-month timescale to reflect longer-term, multi-year drought. Although I can consider SPEI values corresponding to any of the available timescales in my analysis, these longer 1-year and 3-year periods make most sense as indicators of agricultural drought (characterised by low soil moisture), i.e., the primary concern of the PSNP, as a food security-related social protection programme.

A limitation of Peng et al. (2020)'s dataset, however, is that areas that are bare or sparsely vegetated are masked out based on data from the Moderate Resolution Imaging Spectroradiometer land surface type product (MCD12Q1) (Friedl et al., 2010) because – the authors note – SPEI is not reliable over these areas (Peng et al., 2020). This means that 23 *woreda*s (out of 779) have no data, corresponding to dryland areas in Afar (12), Amhara (4), Somali (4) and Oromiya (3). Of these, 11 (48%) are covered by the PSNP. Although I can obtain SPEI values for all *woredas* from an alternative SPEI database – notably SPEI-CRU from the Climatic Research Unit of the University of East Anglia (Beguería, Vicente-Serrano, & Angulo-Martínez, 2010; Beguería, Vicente-Serrano, Reig, & Latorre, 2014; Vicente-Serrano, Beguería, & López-Moreno, 2010; Vicente-Serrano, Beguería, López-Moreno, Angulo, & El Kenawy, 2010), my preference is to use the SPEI-HR dataset with missing observations. SPEI-CRU and SPEI-HR are positively correlated (Peng et al., 2020). However, Peng et al. (2020)'s high, 5km spatial resolution SPEI-HR dataset is better suited to district-level analyses (compared to the 0.5 degree (≈ 55km) spatial resolution of SPEI-CRU). Moreover, there are well-established differences between precipitation products covering Africa (Maidment, Allan, & Black, 2015); CHIRPS – from which SPEI-HR is constructed – generally performs well in most parts of the continent, including Ethiopia (Dinku et al., 2018).

Another choice I have made is to use SPEI values corresponding to each *woreda*'s centroid, rather than obtain average values for each *woreda*. A limitation of this is that for a country like Ethiopia with high topographical variation, the centroid's SPEI value

might be much higher or lower than at another location within the *woreda*'s boundaries. This risk is higher for *woreda* covering larger areas. Half of the *woredas* in my dataset cover an area of 850 km^2 or less, however, and 75% cover area of 1500 km^2 or less. Only 10% of *woreda*s have an area greater than 3200 km^2, and 5% have an area greater than 5,800 km^2. As such, the risk that centroid SPEI values do not adequately reflect the conditions in the rest of the *woreda* can be considered small.

Highly skewed conflict data: Finally, a limitation of my conflict datasets is that, as expected, they are highly skewed: many *woredas* have experienced little or no conflict events during the 2005-19 and 2005-21 periods, while some have experienced over 200. An alternative to this highly skewed dataset could have been to use an index for conflict and/or fragility. However, obtaining or constructing a robust index proved too difficult given the political sensitivity around making such information publicly available, the uncertainty around the reliability or validity of any input data, and the added challenge of having the index correspond to my study's administrative boundaries.

Ultimately, I chose to minimise the influence of outliers in my dataset without dropping them altogether by winsorising my data at the 99th percentile, i.e. assigning all values above the 99th percentile the value of the percentile itself (Bangalore, 2022; Nyitrai & Virág, 2019). For instance, for the 2005-19 period, the value of the 99th percentile is 77; therefore, all *woreda*s that have experienced more than 77 conflict events are assigned the value 77. For sensitivity testing, I run my logit models with outliers winsorised at the 95th percentile, as well as with their original values.

Sensitivity testing: The results the models I have run using alternative econometric specifications to check on the robustness of my results are reflected in Appendix C. These include:

- **Full logit models with region fixed effects (Appendix C.1):** these models include the flood risk variable, which is later omitted to obtain the best-fitting models (reflected in Table 6.4);
- **Logit models that include both drought variables (Appendix C.2):** while all other logit models in this study include *either* the drought variable using the 12-month

timescale *or* the drought variable using the 36-month timescale, these models include *both, together*;

- **Logit models that consider dry *Kiremt* months (Jun-Sep) only (Appendix C.3):** the drought variables in these models reflect the number of dry months occurring during Ethiopia's primary cultivation season only;
- **Logit models that consider dry *Belg* months (Feb-May) only (Appendix C.4):** the drought variables in these models reflect the number of dry months occurring during Ethiopia's earlier cultivation season only;
- **Logit models with region fixed effects (Appendix C.5):** these models include the conflict variable corresponding to the 2005-21 period with region fixed effects, to show that the strength of the association between conflict in the 2005-21 and PSNP coverage becomes stronger when keeping regions fixed;
- **Logit models with conflict variable outliers winsorised at the 95th percentile (Appendix C.6):** the conflict variable's outliers in these models have been winsorised at the 95th percentile, as opposed to the 99th percentile;
- **Logit models with alternative conflict variables (Appendix C.7):** the conflict variable's outliers in these models have not been winsorised; moreover, the conflict variable of four of these models reflect conflict events occurring within a 0.1-degree buffer of each *woreda*'s boundaries.

The above models are also referenced within the results and discussion section that follows.

6.4 Results

I set out to examine how far the PSNP targets *woreda*s most exposed to three major risks in the country: drought, flooding, and political conflict. Accordingly, I developed an initial set of four binary logistical regression analysis models with PSNP coverage in 2021 as the outcome variable (Y), number of dry months (X_1), share of population exposed to

flood risk (X_2) and number of conflict events (X_3) as explanatory variables, and poverty headcount rate (X_4), and population density[15] (X_5) as control variables:

$$log\left(\frac{\pi_i}{1-\pi_i}\right) = \alpha + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} \quad (3)$$

The results of these initial models are shown in Table 6.2. The drought variable (X_1) for models (1) and (2) is based on SPEI values using a 12-month timescale, while for models (3) and (4), it is based on SPEI values using a 36-month timescale. Similarly, the conflict variable (X_3) for models (1) and (3) corresponds to the number of conflict events occurring within 0.1-degree buffers of *woreda* boundaries in the 2005-19 period, while for models (2) and (4), it corresponds to the 2005-21 period. The results of corresponding nested, best-fitting models are shown in Table 6.3.

I repeated the same analysis with the 2005-19 conflict variable adding region fixed effects to the logit models. Keeping regions fixed, however, restricts my analysis to Amhara, Oromiya, SNNP region, Somali and Tigray (i.e. to 699 *woreda*s instead of 756). Other regions are omitted because the models predict either perfect success (all *woredas* covered by the PSNP) or perfect failure (no *woreda* is covered) for them. The results of the best-fitting models that include region fixed effects (Table 6.4) therefore serve only to complement the interpretation of those of the main, best-fitting empirical models (in Table 6.3).

Finally, Table 6.5 shows the correlation coefficients of all my explanatory variables.

My overall analysis reflects the following:

i) The probability of PSNP coverage by *woreda* increases with the experience of year-to-year drought (based on SPEI-HR values using a 12-month timescale). However, a *woreda* is less likely to be covered as its experience

[15] I also controlled for population instead of population density. This generated only marginal differences to my coefficients and associated test statistics, and thus did not alter my overall conclusions.

of multi-year drought (based on SPEI-HR values using a 36-month timescale) increases.

ii) I find no association between exposure to flood risk and the probability of PSNP coverage. In other words, higher flood exposure does not make a *woreda* more or less likely to be covered by the PSNP.

iii) *Woreda*s with higher conflict incidence between 2005 and 2021 are more likely to be covered by the PSNP. However, I find no association between conflict events and the probability of PSNP coverage if I disregard the recent escalation of conflict beginning in 2020.

iv) In line with its core objectives, the likelihood of PSNP coverage increases as poverty headcount rates rise, and declines as population density increases.

These findings and their implications are discussed in further detail below.

Table 6.2: Results of full logit models

PSNP coverage (2021)	(1)		(2)		(3)		(4)	
	$\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	OR	$\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	OR	$\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	OR	$\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	OR
Poverty headcount rate (%)	0.0339*** *(0.0064)*	1.0344	0.0361*** *(0.0064)*	1.0367	0.0314*** *(0.0063)*	1.0318	0.0336*** *(0.0064)*	1.0342
Population density (per km^2)	-0.0004** *(0.0001)*	0.9996	-0.0004** *(0.0001)*	0.9996	-0.0004** *(0.0002)*	0.9996	-0.0004** *(0.0002)*	0.9996
No. dry months (SPEI 12-month timescale)	0.0303*** *(0.0088)*	1.0308	0.0289*** *(0.0088)*	1.0293				
No. dry months (SPEI 36-month timescale)					-0.0126** *(0.0061)*	0.9874	-0.0128** *(0.0061)*	0.9873
Population exposed to flood risk (%)	-0.0050 *(0.0102)*	0.9950	-0.0054 *(0.0103)*	0.9946	-0.0030 *(0.0102)*	0.9970	-0.0034 *(0.0103)*	0.9966
No. conflict events within and close to *woreda* (2005-19)[1]	0.0001 *(0.0031)*	1.0001			0.0009 *(0.0031)*	1.0009		
No. conflict events within and close to *woreda* (2005-21)[1]			0.0066*** *(0.0023)*	1.0066			0.0071*** *(0.0023)*	1.0071
Constant	-1.7412*** *(0.2893)*		-1.9289*** *(0.2945)*		-1.0104*** *(0.2476)*		-1.2213*** *(0.2543)*	
N	756		756		756		756	
Chi-square	60.02***		67.78***		52.20***		61.29***	
Log likelihood	-470.8914		-467.0142		-474.8007		-470.2556	

****p < 0 .01 **p < 0 .05 *p < 0.1*

[1] Top-end outliers winsorised at 99th percentile.

Table 6.3: Results of best-fitting logit models

PSNP coverage (2021)	(1a)		(2a)		(3a)		(4a)	
	$\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	**OR**	$\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	**OR**	$\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	**OR**	$\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	**OR**
Poverty headcount rate (%)	0.0336*** *(0.0063)*	1.0342	0.0359*** *(0.0064)*	1.0365	0.0310*** *(0.0063)*	1.0315	0.0336*** *(0.0064)*	1.0342
Population density (per km^2)	-0.0004** *(0.0001)*	0.9996	-0.0004** *(0.0001)*	0.9996	-0.0004** *(0.0002)*	0.9996	-0.0004** *(0.0002)*	0.9996
No. dry months (SPEI 12-month timescale)	0.0302*** *(0.0088)*	1.0307	0.0288*** *(0.0088)*	1.0292				
No. dry months (SPEI 36-month timescale)					-0.0126** *(0.0061)*	0.9875	-0.0129** *(0.0061)*	0.9873
Population exposed to flood risk (%)	omitted		omitted		omitted		omitted	
No. conflict events within and close to *woreda* (2005-19)[1]	omitted				omitted			
No. conflict events within and close to *woreda* (2005-21)[1]			0.0065*** *(0.0023)*	1.0066			0.0071*** *(0.0023)*	1.0071
Constant	-1.7897*** *(0.2652)*		-1.9821*** *(0.2772)*		-1.0214*** *(0.2180)*		-1.2544*** *(0.2337)*	
N	756		756		756		756	
Chi-square	59.77***		67.49***		59.77***		61.18***	
Log likelihood	-471.0146		-467.1555		-474.8909		-470.3102	

****p < 0 .01 **p < 0 .05 *p < 0.1*

[1] Top-end outliers winsorised at 99th percentile.

Table 6.4: Results of best-fitting logit models with region fixed effects

PSNP coverage (2021)	**(1)**		**(2)**		**(3)**	
	$\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	**OR**	$\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	**OR**	$\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	**OR**
Poverty headcount rate (%)	0.0377*** *(0.0072)*	1.0384	0.0352*** *(0.0072)*	1.0358	0.0353*** *(0.0072)*	1.0359
Population density (per km^2)	-0.0007*** *(0.0002)*	0.9993	-0.0007*** *(0.0002)*	0.9993	-0.0007*** *(0.0002)*	0.9993
No. dry months (SPEI 12-month timescale)	0.0334*** *(0.0106)*	1.0340				
No. dry months (SPEI 36-month timescale)			-0.0134* *(0.0069)*	0.9867		
No. dry *Belg* months (SPEI 36-month timescale)					-0.0466** *(0.0207)*	0.9545
Population exposed to flood risk (%)	Omitted		Omitted		Omitted	
No. conflict events within and close to *woreda* (2005-19)[1]	0.0116*** *(0.0036)*	1.0117	0.0120*** *(0.0036)*	1.0121	0.0121*** *(0.0036)*	1.0122
Constant	-0.2745 *(0.4642)*		0.4198 *(0.4345)*		0.4373 *(0.4343)*	
Region FE[2]	YES		YES		YES	
N	699		699		699	
Chi-square	141.31***		134.93***		136.27***	
Log likelihood	-392.2244		-395.4101		-394.7414	

****p < 0 .01 **p < 0 .05 *p < 0.1*

[1] Top-end outliers winsorised at 99th percentile.

[2] *Woreda*s in Afar, Benishangul Gumuz, Gambela, Harari, Addis Ababa and Dire Dawa regions are omitted.

Note: See Appendix C.1 for corresponding full models

Table 6.5: Correlation coefficients of explanatory variables

	Poverty headcount rate (%)	**Population density** (per km^2)	**No. dry months** (12M)	**No. dry months** (36M)	**Population exposed to flood risk** (%)	**No. conflict events** (2005-19)	**No. conflict events** (2005-21)
Poverty headcount rate (%)	1						
Population density (per km^2)	-0.28	1					
No. dry months (SPEI 12-month timescale)	-0.09	0.03	1				
No. dry months (SPEI 36-month timescale)	-0.04	0.02	0.66	1			
Population exposed to flood risk (%)	0.04	0.05	0.04	0.04	1		
No. conflict events (2005-19)	-0.16	0.11	0.07	0.07	0.01	1	
No. conflict events (2005-21)	-0.14	0.10	0.09	0.02	0.01	0.89	1

6.4.1 PSNP coverage does not align with areas highly susceptible to multi-year drought

My best-fitting logit models (Table 6.3) reflect that the odds of a *woreda* being covered by the PSNP multiply by 1.034 (i.e. they increase by 3.4%) with every additional month considered dry using a 12-month SPEI timescale, controlling for poverty headcount rate and population density. Similarly, they increase by 3.7% when also controlling for conflict incidence in the 2005-2021 period. The direction of association between the two variables remains the same when keeping regions fixed as well, with odds of PSNP coverage increasing by 3.4% for every additional dry month (Table 6.4).

In contrast, however, I find that the likelihood of PSNP coverage is negatively associated with the number of dry months under a 36-month timescale. Controlling for poverty headcount rate and population density, the odds that a *woreda* will be covered by the PSNP decrease by 1.3% with every additional dry month. These results suggest that PSNP-5 is currently well-targeted toward *woreda*s that have experienced higher levels of year-to-year drought between 2005 and 2016, but poorly targeted toward those that have faced greater longer-term, multi-year dry conditions.

It is helpful to illustrate these results in terms of probabilities. For this, I use the estimated parameters of models (1a) and (3a) in the set of best-fitting logit models (Table 6.3), holding poverty headcount rate fixed at 0.2608 (the estimated mean) and population density at 162.14 per km^2 (the estimated median). Table 6.6 shows summary statistics for the two drought variables (which inform the values I choose for fitting probabilities). The estimated probability of PSNP coverage for a *woreda* that has recorded 17 months of dry conditions based on a 12-month SPEI timescale (the estimated median) is 38.8%. Similarly, the likelihood of a *woreda* being included in the programme is 38% if it has 17 recorded dry months based on a 36-month SPEI timescale. There is little difference between year-to-year and multi-year drought experiences in this case. However, *woreda*s that experienced 23, 32 and 39 dry months at a 12-month SPEI-month timescale have a probability of PSNP coverage that is progressively increasing, at 43.1%, 49.9% and 55.2%, respectively, while for those that experienced the same numbers of dry months based on a 36-month timescale, the probabilities are

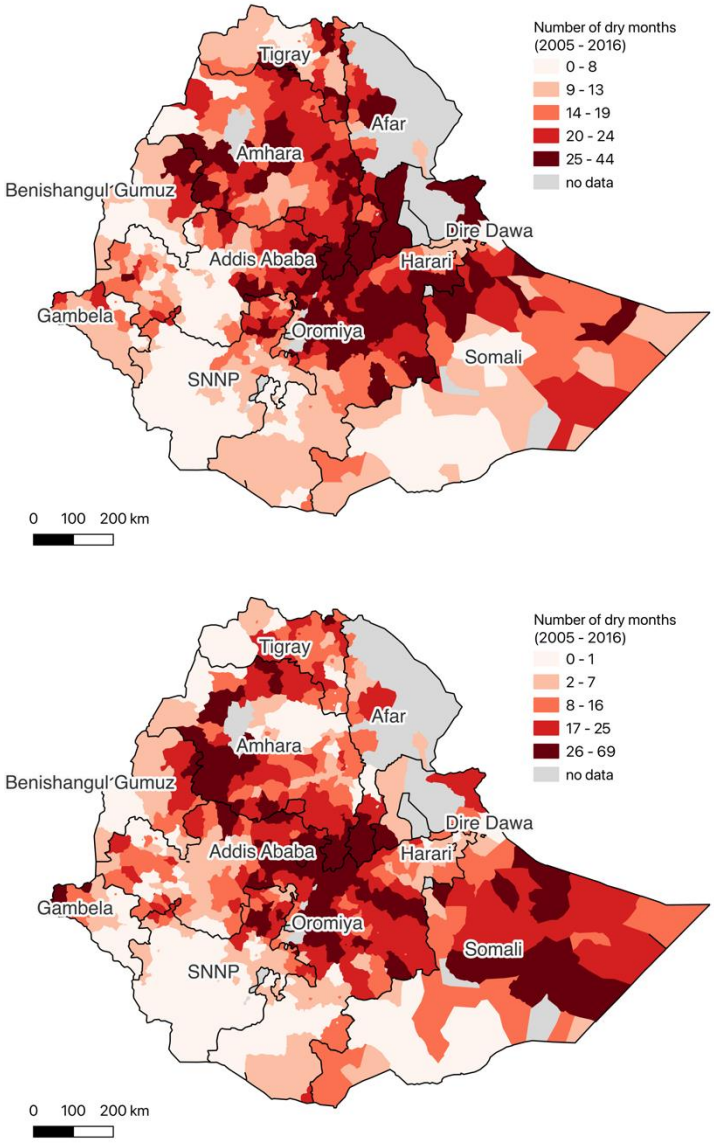
progressively decreasing, at 36.2%, 33.7% and 31.7%, respectively. The estimated probability of PSNP coverage if a *woreda* has recorded 57 dry months based on a 36-month SPEI timescale decreases further to 27%.

Table 6.2: Number of dry months, by woreda

	No. dry months (12-month SPEI timescale)	**No. dry months (36-month SPEI timescale)**
Range	0 – 44	0 – 69
Mean	16.71	14.61
Standard deviation	9.09	13.19
Median	17	12
Interquartile range	10 – 23	4 – 22
95th percentile	32	40
99th percentile	39	57
N	757	757

Although the 12-month and 36-month SPEI drought variables are positively correlated, their correlation coefficient of 0.66 reveals that differences between the two remain, leading to these seemingly paradoxical results. The fact that including both variables in a single model strengthens each's association (in their respective direction) with the probability of PSNP coverage is further indication of this (see appendix C.2). The contrasting result is because the experience of year-to-year drought and that of multi-year drought have diverging spatial patterns, as reflected in Figure 6.2 below. The top map captures the distribution of the number of dry months experienced per *woreda* based on SPEI values using a 12-month timescale; the bottom map reflects the spatial distribution of dry months experienced per *woreda* based on a 36-month SPEI timescale. Southern areas of Somali and western parts of Gambela (both low-elevation, dryland regions) stand out as having experienced far greater multi-year drought conditions compared to year-to-year drought over the 2005-16 period, for instance. Conversely, the northern and central highlands of Tigray, Amhara and Oromiya have experienced fewer multi-year drought conditions compared to year-to-year ones.

Figure 6.2: Spatial distribution of drought by woreda at 12-month (top) and 36-month (bottom) SPEI timescales



Further analysis hints also at seasonal differences between year-to-year drought and multi-year drought. The positive association between PSNP coverage and number of dry months based on a 12-month SPEI timescale strengthens if I only consider those corresponding to the *Kiremt* summer rainfall season (June-September) (see Appendix C.3). The odds that a *woreda* is participating in the programme increase by more than 8.4% with every additional dry *Kiremt* month. Similarly, the negative association between PSNP coverage and number of dry months based on a 36-month SPEI timescale strengthens if I only consider those corresponding to the earlier *Belg* spring rainfall season (February-May) (see Appendix C.4). In this case, the odds decrease by almost 5% with each additional dry *Belg* month, even when holding region fixed. (Conversely, I find

no association that is statistically significant at the 0.05 level between PSNP coverage and dry *Kiremt* months based on a 36-month SPEI timescale, nor between PSNP coverage and dry *Belg* months based on a 12-month SPEI timescale.)

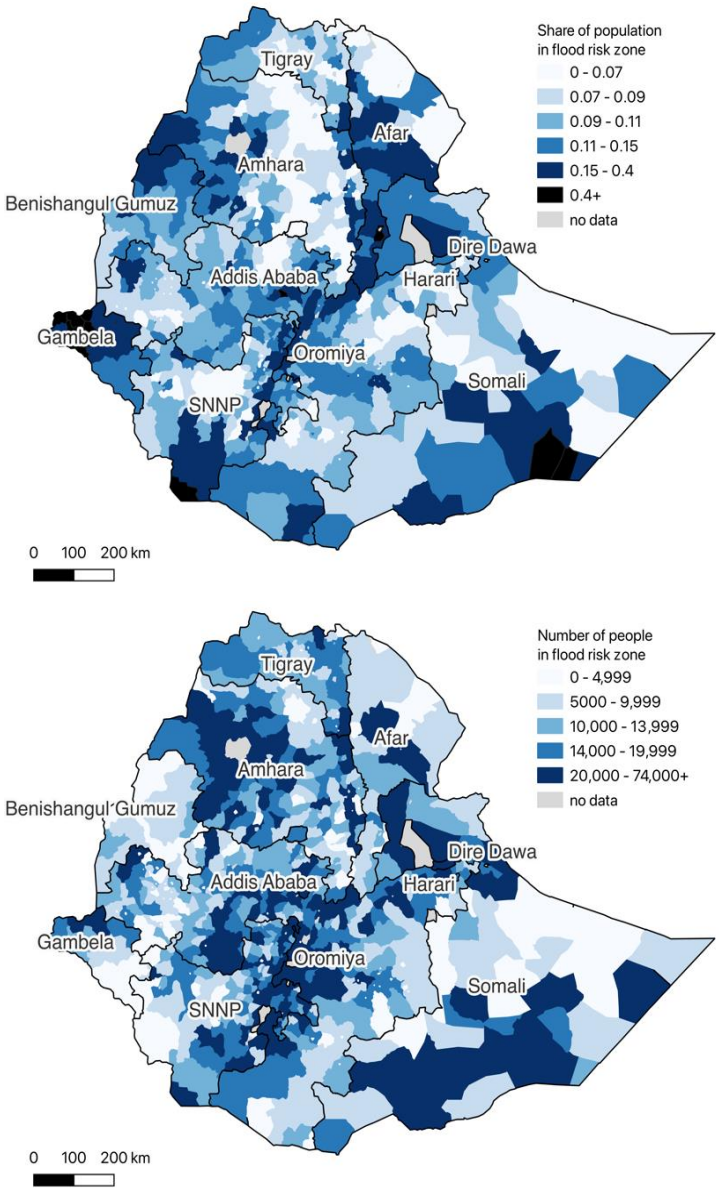
Kiremt summer rains account for 65-95% of total annual rainfall in Ethiopia (Segele & Lamb, 2005; Suryabhagavan, 2017). Occurring in the primary cultivation season (in moisture-rich highland regions especially), they are critically important for the country's agriculturalists, the vast majority of whom are subsistence farmers without access to irrigation (Ehsan et al., 2021; Suryabhagavan, 2017). Historically, the major droughts that are associated with Ethiopia's devastating famines are attributed to a failure of *Kiremt* rains (Suryabhagavan, 2017; Wainwright et al., 2019). In fact, the Government's decision to establish the PSNP in the early 2000s was directly related to the urgent need to prevent future famines— for humanitarian reasons certainly, but also for political ones (Lavers, 2019; Tenzing & Conway, 2022). It is therefore sound, albeit not surprising that the safety net's targeting is particularly responsive to year-to-year drought conditions in *Kiremt* season, which have more immediate and larger scale consequences for food security and people's livelihoods across the country. Yet, earlier *Belg* rains also occur during the cultivation season, and although *Belg* crops have lower yields, these rains are especially important for smallholder farmers and pastoralists in dryland regions (Taffesse, Dorosh, & Asrat, 2012). Moreover, whilst *Kiremt* rains record high year-to-year variability (Trisos et al., 2022), a more pronounced drying trend over the Horn of Africa is observed for the *Belg* season (Funk et al., 2008; Funk, Nicholson, et al., 2015; Hoell & Funk, 2014; Liebmann et al., 2014; Lyon, 2014; Rowell, Booth, Nicholson, & Good, 2015; Williams & Funk, 2011; Yang, Seager, Cane, & Lyon, 2014). In Ethiopia, this tendency is stronger over lowlands compared to the northern and central highlands (Suryabhagavan, 2017; Viste, Korecha, & Sorteberg, 2013).

Overall, these results suggest that whilst PSNP targeting aligns with year-to-year drought exposure affecting the primary agricultural areas of the country, the safety net's comparatively poor presence in those affected by increasing multi-year drought risk contradicts its 'adaptive' objective.

6.4.2 A *woreda*'s exposure to flood risk currently has no bearing on PSNP coverage

My data show that approximately 11.1% of the population (more than 11.5 million people) live in high-risk flood zones. This risk is also unevenly distributed across the country, as reflected in Figure 6.3, with much concentrated along the Great Rift Valley.

Figure 6.3: Spatial distribution of population exposure to flood risk; top: share of population; bottom: headcount



The top map depicts the share of the population per *woreda* located in flood risk zones, while the bottom map reflects absolute exposure headcount per *woreda*. Despite the

magnitude of flood risk over large areas of the country, I find no association between the share of a population exposed in a given *woreda* and its inclusion in the PSNP. (All my best-fitting models therefore exclude the flood risk variable.)

Table 6.7 reflects regional differences in the number or share of people located in flood risk zones. Estimates of the number of poor people living in these zones are also provided, based on *woreda* poverty headcount rates. Gambela, for instance, has the highest relative share of people exposed to flood risk. However, Oromiya has by far the highest absolute number of people located in flood risk zones, as well as the highest estimated number of exposed people living in poverty.

Table 6.3: Distribution of flood risk, by region

Region/State	Population	Pop. exposed to flood risk (%)	No. people exposed to flood risk	Poverty headcount rate (%)	No. poor exposed to flood risk
Afar	1,823,000	15.8	314,000	27.8	100,000
Amhara	22,282,000	10.8	2,405,000	24.9	621,000
Benishangul G.	1,136,000	10.8	122,000	24.8	29,000
Gambela	565,000	37.1	209,000	18.6	61,000
Harari	238,000	7.5	18,000	6.2	1,000
Oromiya	39,622,000	10.6	4,215,000	21.8	1,149,000
Somali	6,552,000	13.3	868,000	22.2	204,000
SNNP	21,438,000	11.3	2,422,000	18.0	696,000
Tigray	5,826,000	9.3	543,000	26.9	141,000
Addis Ababa	3,508,000	9.3	328,000	7.3	24,000
Dire Dawa	499,000	14.5	72,000	18.5	13,000

Table 6.4: Share of population located in flood risk zones, by *woreda* (excluding Addis Ababa and Dire Dawa)

	Pop. exposed to flood risk (%)
Range	0 – 87.78
Mean	11.64
Standard deviation	7.92
Median	9.69
Interquartile range	7.54 – 13.03
95th percentile	25.06
99th percentile	45.61
N	779

At the *woreda*-level, my data moreover show that the average share of the population located in flood risk zones is 11.64 (see Table 6.8). For 41 *woreda*s, more than 25% of the population is exposed to flood risk. Furthermore, of the 100 *woreda* with the highest share of people living in flood-risk zones, 39 are covered by the PSNP, and of the 100 *woreda*s that have the highest absolute exposure headcount (excluding Addis Ababa and Dire Dawa), 41 are covered. Similarly, of the 100 *woreda*s with the highest estimated number of poor people in flood-risk zones, half are participating in the PSNP, and of the 58 *woreda*s counting more than 10,000 poor people living in flood risk zones, 24 (41.4%) are.

These results illustrate that flood risk exposure is currently an inadequate predictor of PSNP coverage; having a higher share of the population located in flood risk zone does not increase the likelihood that a given *woreda* will be targeted by the programme (though it does not decrease it either). Responding to flood-related shocks is not an explicitly stated objective of the PSNP, nor has it been in past phases of the programme. Yet, the deliberate consideration of the spatial distribution of such a major climatic risk in determining where the safety net should operate could strengthen the PSNP's alignment with its new 'adaptive' objective.

6.4.3 Although PSNP coverage is currently positively associated with conflict incidence, this was not the case prior to 2019

Controlling for poverty headcount rate, population density and drought, I find that the probability that a *woreda* is included in the PSNP increases as conflict incidence in the 2005-21 period also increases. The association between PSNP coverage and the experience of conflict disappears, however, when events that occurred between January 2020 and December 2021 are not considered. Whilst the set of logit models that include region fixed effects do show a positive association between coverage and conflict incidence up until 2019, these results are estimated from data for *woreda*s in Amhara, Oromiya, the SNNP region, Somali, and Tigray only. Holding regions fixed, the

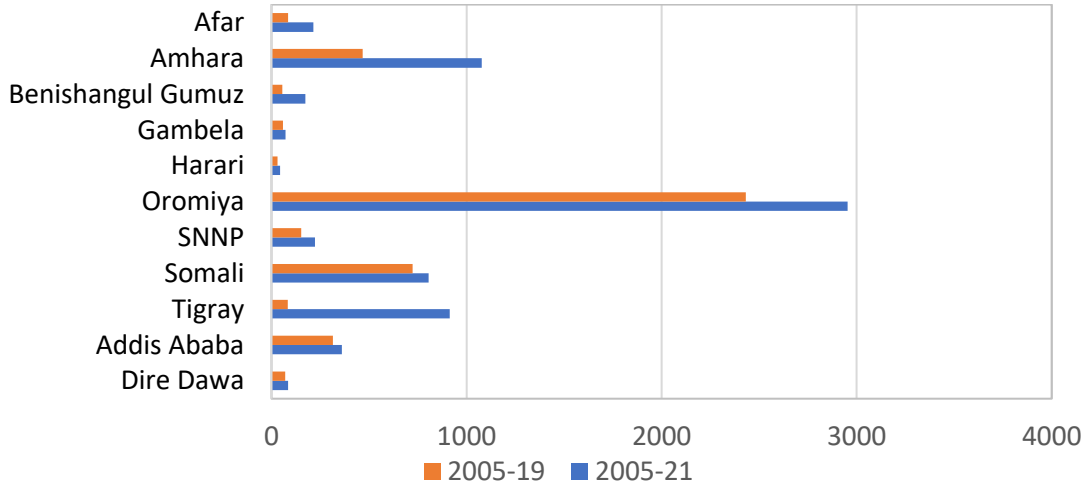
odds of PSNP coverage and conflict incidence in the 2005-21 period also become stronger (see Appendix C.5).

Table 6.9 and Figure 6.4 capture the substantial rise in conflict events reported in Ethiopia since 1 January 2020, by region. Conflict incidence in Tigray in particular has increased by almost 1000%. Prior to 2020, however, most reported conflict events occurred in Oromiya.

Table 6.5: Number of conflict events, by region

Region/state	2005-19	2005-21	% increase
Afar	85	215	152.9
Amhara	467	1,077	130.6
Benishangul Gumuz	56	173	208.9
Gambela	59	72	22.0
Harari	31	44	41.9
Oromiya	2,431	2,954	21.5
SNNP	152	223	46.7
Somali	723	806	11.5
Tigray	84	913	986.9
Addis Ababa	314	360	14.7
Dire Dawa	71	85	19.7
Total	**4,473**	**6,922**	**54.8**

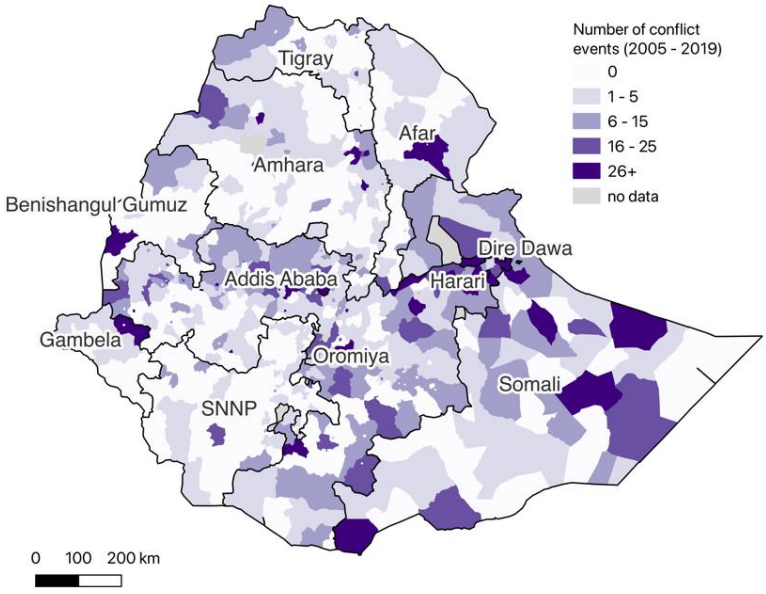
Figure 6.4: Conflict incidence, by region



The spatial distribution of conflict by *woreda* for each period is shown in Figure 6.5, with summary statistics for the two variables – using 0.1-degree buffers and winsorised at the 99th percentile – provided in Table 6.10. Winsorization at the 99th percentile only

alters 7 observations and as such the data remain highly skewed; however, this better captures the magnitude of the difference between *woreda*s at the tail-end experiencing exponentially higher levels of conflict. In comparison, 95% winsorization changes 39 observations and reduces the maximum values to 69 and 90 events for the 2005-19 and 2005-21 periods respectively. Nevertheless, doing so does not affect the direction of the association between conflict incidence and PSNP coverage in any of my models (see Appendix C.6).

Figure 6.5: Spatial distribution of conflict events by *woreda* in the 2005-2019 period (top) and 2005-2021 (bottom) period



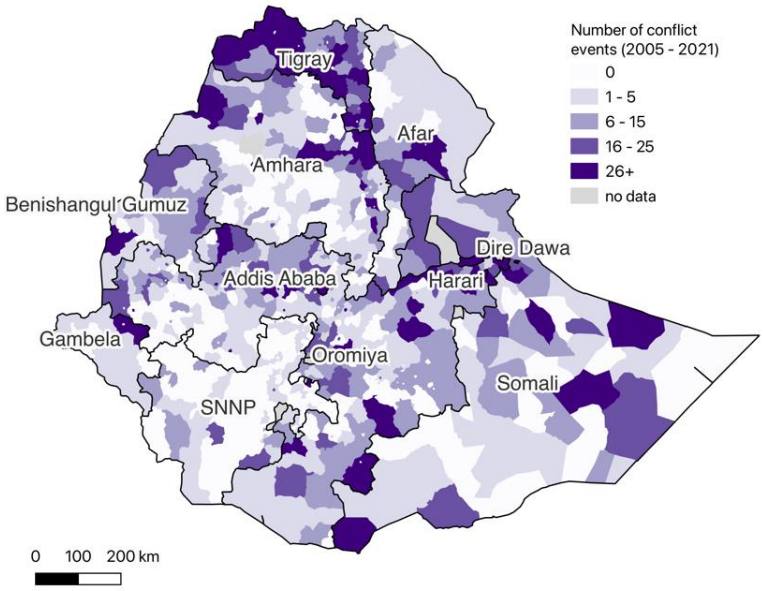


Table 6.6: Conflict incidence by *woreda*, using 0.1-degree buffers

	2005-19	2005-21
Range*	0 – 155	0 – 180
Mean	17.25	25.34
Standard deviation	27.16	34.07
Median	7	13
Interquartile range	1 – 17	4 - 32
95th percentile	69	90
99th percentile	155	180
N	781	781

*Note: *Outliers have been winsorised at the 99th percentile*

Whilst the association between PSNP coverage and conflict incidence between 2005 and 2021 is positive – suggesting that the *woreda*s whose resilience to climatic shocks might be affected by high levels of conflict risk are more likely to be receiving PSNP support than those experiencing less political instability – care must be taken in drawing conclusions from these results. First, in line with the anecdotal evidence described by Lind et al. (2022) – humanitarian actors (e.g. FEWS NET, WFP, & USAID, (2021); UN OCHA, (2022)) report that PSNP operations (in Tigray and Eastern Amhara especially) have been severely disrupted due to the escalation of conflict. As such, *woreda*s with high levels of conflict exposure might be covered by the PSNP in theory, but there is reason to believe support to participating households is interrupted, unreliable or otherwise impacted during these times of fragility and insecurity.

Second, the strength of the association between the two variables is not substantial; controlling for all other explanatory variables, the odds of PSNP coverage increase by only 0.7% with every additional conflict event. This is better reflected with fitted probabilities. Using the estimated parameters of model (2a) in Table 6.3 (which uses the 12-month SPEI drought variable), I hold population density fixed at 162.14 per km^2, and the other predictors at their mean values. The estimated probability of PSNP coverage for *woreda*s that report no conflict events in the 2005-21 period is 34.8%; for those that have experienced 10, 20, 30 and 40 conflict, the probability increases in small increments to 36.3%, 37.8%, 39.4%, and 40.9%, respectively. It is only for the 1% of *woreda*s reporting very large numbers of conflict events – 180 or more – that the probability of PSNP coverage is much higher, at 63.4%. Yet, the experience of 30 or 40

conflict incidents over a 17-year period is certainly not negligible and can affect communities' resilience to climatic (and other) shocks.

Finally, as I find no association between PSNP coverage and conflict incidence in the 2005-19 period, I have reason to confirm that decisions on where to target the safety net in 2021 were not informed by conflict risk. While recognising that all my models can only point to association (and not causation), I believe the relatively good coverage of very high conflict-affected *woreda*s is more likely to be a legacy of the past 15 years of PSNP operations. Indeed, considering its size relative to other regions, the safety net has consistently had wide presence and performed well in Tigray especially (Berhane et al., 2013; Sabates-Wheeler et al., 2021). As noted in previous scholarship, decisions regarding the PSNP – including its establishment and geographical targeting – have been and still are deeply political (Cochrane & Tamiru, 2016; Lavers, 2019; Tenzing & Conway, 2022). The catastrophic famine that occurred between 1983 and 1985 disproportionately affected northern Ethiopia, and were triggered not only by shortfalls of *Kiremt* rains as already mentioned, but also civil unrest; in fact, it played a direct role in toppling the previous military regime in 1991 (*ibid*). Addressing chronic food insecurity in these parts of the country was a priority for the newly established Federal Democratic Republic of Ethiopia, whose first elected Prime Minister, Meles Zenawi, was himself from Tigray (Lavers, 2019; Tenzing & Conway, 2022; The IDL Group, 2008).

Ultimately, my results point to the need for stronger (or more deliberate) PSNP coverage over *woreda*s affected by conflict, which not only shapes but also exacerbates many rural Ethiopians' vulnerability to climatic shocks. This said, there are many challenges to (and yet limited experience in) designing and providing 'adaptive' social protection in fragile and conflict-affected settings, as Naess et al. (2022) outline. Indeed, targeting that aligns with well with the spatial distribution of conflict risks – as is currently the case for the PSNP – proves fruitless if these obstacles are not fully understood and addressed first.

6.4.4 The likelihood of PSNP coverage increases with lower population density and higher levels of poverty

Finally, the estimated coefficients for my control variables – population density and poverty headcount rate – is consistent with the PSNP's focus on rural areas and core objective to reduce extreme poverty. Summary statistics for both variables are listed in Tables 6.11 and 6.12. Across all my models in Table 6.3, I find that (holding other variables constant) the odds of PSNP coverage decrease by 0.04% as population density increases by 1 person per km^2. The strength of the association might seem low, but fitted probabilities illustrate that this figure is not unsubstantial. Using the parameters of model 1(a) in Table 6.3 and holding all other variables constant at their mean values, I estimate that a *woreda* with a population density of 162.14 per km^2 has a 38.6% chance of being covered by the PSNP. The probability of coverage decreases to 37.5% for *woreda*s with a population density of 285.15 per km^2. It declines to 25.4% and even further to 6.9% for those with a population density of 1862.37 per km^2 and 6109.26 per km^2. I infer from these results that the safety net's effectively targets rural areas where population is less concentrated over small areas.

Table 6.7: Population density, by *woreda*

	Population density (per km^2)
Range	2.08 – 10776.73
Mean	425.55
Standard deviation	1010.11
Median	162.14
Interquartile range	67.42 – 285.15
95th percentile	1862.37
99th percentile	6109.36
N	781

Conversely, the association between PSNP coverage by *woreda* and poverty is positive. I find that (holding other variables constant), the odds of coverage increase by between 3.2% and 3.7% with every percentage point increase in the poverty headcount rate. Holding population density fixed at the median value of 162.14 km^2 and number of dry days (based on a 12-month SPEI timescale) at the mean value of 16.72, the estimated probability of PSNP coverage for a *woreda* with the median poverty headcount rate of 0.248, for instance, is 31.7% (based on model (1a) in Table 6.3). For *woreda*s with

poverty headcount rates of 0.333, 0.506 and 0.637, the probabilities increase to 44.5%, 58.9% and 69% respectively. PSNP coverage by *woreda* thus aligns well with the spatial distribution of poverty in Ethiopia.

Table 6.8: Poverty headcount rate, by *woreda*

	Poverty headcount rate (%)
Range	0.45 – 78.02
Mean	26.08
Standard deviation	13.14
Median	24.83
Interquartile range	17.06 – 33.34
95th percentile	50.62
99th percentile	63.72
N	779

People's capability to absorb, cope with and recover from shocks is certainly closely linked to their level of poverty (Hallegatte et al., 2016; Jafino, Walsh, Rozenberg, & Hallegatte, 2020), and as such, the positive association between poverty and the likelihood of PSNP coverage is promising. This said, I find little correlation between poverty and each of my drought, flooding and conflict variables (see Table 6.5). As such, it cannot be assumed that by virtue of the PSNP's targeting of rural *woreda*s according to poverty rates, those at risk of drought, flooding and/or conflict will receive support. In fact, in its recent poverty assessment for the country, the World Bank (2020) found that this first-stage selection of *woreda*s adds little to household targeting performance of the PSNP, and suggested a re-think on the merits of geographical targeting, given the relatively small disparities in welfare among rural *woreda*s. My study concludes that since PSNP-5 has chosen to retain geographical targeting, moving forward it needs to be better informed by the spatial distribution of different climatic and social risks – such as multi-year drought, flooding and conflict risks – in line with its intention to be an 'adaptive' safety net.

6.5 Discussion and conclusion

This paper has sought to assess the extent to which the 'adaptive' PSNP's current system of geographic targeting aligns with three major risks rural Ethiopians face: drought, flooding, and conflict. I find that the likelihood of PSNP coverage increases as the experience of year-to-year drought increases, particularly if a *woreda* is recording dry conditions during the key summer cultivation season. Paradoxically, however, the probability of coverage falls as the experience of multi-year drought rises; this is especially true for parts of the country over which a declining trend in spring rainfall is observed – notably in the lowlands, where livelihoods are more reliant on this earlier season. I furthermore find no association between PSNP coverage and exposure to flood risk. This result is not surprising, given that responding to flood-related shocks is not an explicitly stated objective of PSNP-V nor was it at the time of the PSNP's establishment. However, the new data generated and presented in this study shows that this major climatic risk is unevenly distributed across the country. As for conflict, whilst I find that the PSNP is currently well-targeted toward districts facing disproportionately high levels of political insecurity, these results should be treated with caution. Indeed, this association disappears if I disregard the recent escalation of conflict in Tigray and neighbouring areas, suggesting that these *woreda*s were not deliberately targeted because of conflict.

Several broader conclusions can be drawn from these findings about the future of the 'adaptive' PSNP. For instance, this study shows that the safety net is still privileging the areas that it has covered since its establishment. The failure of summer rains (corresponding to year-to-year drought) have long been connected to the country's history of devastating famines (Suryabhagavan, 2017; Wainwright et al., 2019). In fact, finding a solution to decades of recurrent famines is precisely what motivated the Ethiopian Government to establish the safety net in the early 2000s. The political urgency to deliver on the promise of food security continues to underpin policy narratives and decisions today, including around how the safety net should be made 'climate-smart' or 'adaptive' (Tenzing & Conway, 2022). It is undoubtedly also politically difficult or economically illogical to cease PSNP operations in the places where people

have come to depend on the programme or where the institutional capacity for implementation already exists.

It is by no means unreasonable that PSNP targeting should be responsive to a form of drought risk that has immediate and large-scale consequences for food security and people's livelihoods across the country. Yet, this study's finding that there is a *negative* relationship between PSNP coverage and multi-year drought risk, affecting different areas and populations of the country (i.e., lowland regions and pastoral communities), shows that the programme's consideration of what constitutes drought risk is limited. This is problematic especially because prioritising drought response is an explicitly stated objective of the PSNP (unlike the other risks considered in this paper). As these areas observe more pronounced drying trends, expanding PSNP-5 coverage accordingly is imperative. Doing so would also align with recommendations of past evaluations of the safety net for more tailored PSNP intervention for pastoral livelihoods in dryland regions (Sabates-Wheeler et al., 2013).

This study's findings that flood risk and conflict risk are poor predictors of PSNP coverage, on the other hand, do not necessarily translate to a recommendation for PSNP-5 *should* be more responsive to them. Indeed, it is important to acknowledge that PSNP resources are finite, and there will be a continued need for Government to make difficult choices over which areas or households to support, and how much support to provide. The aim of this research was to test the PSNP's alignment to a yet undefined 'adaptive' objective, and in particular highlight the importance of taking into account contextual drivers of vulnerability to climate change in doing so, such as exposure to conflict. The consideration of other types of risk could have been more appropriate. Conflict incidence, in particular, is only one example of a social risk; and whilst it is a reliable indicator for fragility and security in a given *woreda*; it does not capture social cohesion or marginalisation among the disparate groups within them, which are critical determinants of contextual vulnerability to climate change.

Moreover, although the PSNP is Ethiopia's *flagship* social protection programme, other safety nets do operate in the country which might have better coverage over the areas highly exposed to the risks considered in this paper. In fact, the Government-managed

Humanitarian Food Aid (HFA) operation – though, as its name suggests, is concerned with providing humanitarian assistance (related to acute food insecurity) rather than social protection – intentionally targets rural areas where the PSNP is not active (World Bank, 2020). In a recent study, Sabates-Wheeler, Hirvonen, Lind, & Hoddinott (2022) have found that the ability of these two programmes deliver a continuum of support in response to different types of vulnerability and risk is indeed promising. They also note that the ongoing conflict in Ethiopia and its disruptive effect on PSNP operations highlight the importance of the harmonisation of historically siloed humanitarian and social protection sectors. However, humanitarian responses are typically short-term and often characterised by one-off payments, while social protection constitutes more regular support (Béné et al., 2018; Sabates-Wheeler et al., 2022). As such, further research is also needed to assess how responsive other social protection programmes operating in Ethiopia are not only to biophysical climate risks (such as those considered in this paper) but also to contextual drivers of vulnerability to climate change, and whether they complement the PSNP in delivering transformative, 'adaptive' social protection.

CHAPTER 7

How transformative is ‘adaptive social protection’?: Concluding remarks

7.1 Vulnerability matters

The concept of 'adaptive social protection' (ASP) emerged fifteen years ago, but its rise as a policy agenda is much more recent. It describes the deliberate integration of climate change considerations in social protection, with a view to support those most in need to manage increasing risks associated with climate change. As the name suggests, it represents a cross-fertilisation of two broader, separate agendas – climate change adaptation and social protection – both of which have vulnerability reduction as a core objective.

How we understand vulnerability matters, however; it determines how agendas (like ASP) are set and implemented, and how successful they are at advancing their long-term objectives (K. O'Brien et al., 2007; Ribot, 2011). As I outlined in Chapter 1, political ecology-oriented scholars have argued that the dominant interpretation of vulnerability in climate change policy and practice is inadequate (K. O'Brien et al., 2007; Ribot, 2011; Watts, 2015). It has overwhelmingly approached vulnerability as the linear result of exposure or sensitivity to biophysical processes associated with climate change. Efforts to reduce vulnerability have consequently focused on responding to or managing these 'external' risks in technocratic ways. Yet, the broader historical, political, social and economic contexts within which these hazards occur are where vulnerability originates. Taking these into account is essential.

A more recent generation of 'pro-poor' adaptation has made an effort to correct this, drawing particularly on entitlements- and livelihoods-based approaches to poverty reduction (Olsson et al., 2014; Sherman et al., 2016). These 'no-regrets' approaches have shifted focus onto micro-level risks to household livelihoods, assets and wellbeing, to help strengthen the 'adaptive capacity' of people living in poverty (Heltberg et al., 2009). As such, they have been more attentive to the multi-dimensional nature of vulnerability to climate change and have highlighted how traditional 'development' action (such as enhancing social protection) is fundamental to adaptation. But whilst this is positive, the wider structural and historical processes underlying how entitlements or assets come to be unevenly distributed, and how these inequalities are perpetuated, continue to be overlooked (Eriksen et al., 2015; Ribot, 2014). The outcome

is at best only short-term palliatives to risk, and at worst, maladaptation (Eriksen et al., 2021; Magnan et al., 2016; Schipper, 2020).

This has led to calls for transformative adaptation, or transformation: a fundamental shift in the manner in which we approach the adaptation process, away from a singular focus on biophysical hazards and onto structural drivers of vulnerability; a challenge to the political status quo that empowers and brings justice to those who are marginalised (Eriksen et al., 2015; Pelling, 2011; Pelling et al., 2015).

Using this scholarship as my starting point, the central question I asked in this thesis is '**how transformative is ASP?**'. This was broken down into three main sub-questions, which I revisit below.

7.2 What is the conceptual scope of a 'transformative' ASP agenda?

7.2.1 Four core functions of social protection

My first paper (Chapter 3) approached the first sub-question through the lens of Devereux and Sabates-Wheeler (2004)'s '3P+T' typology for describing four core (non-mutually exclusive) functions of social protection: protection, prevention, promotion and transformation. Dominant 'growth-oriented' approaches to social protection tend to focus on the first three functions (Devereux et al., 2016). These involve, respectively, actions to: provide direct relief to those in a current state of deprivation; protect vulnerable people from falling into deprivation; and enhance income and capabilities to reduce future susceptibility to deprivation (Devereux & Sabates-Wheeler, 2004). Although these aspects of social protection are important, Devereux and Sabates-Wheeler (2004) have argued that focusing on them alone limits the agenda to providing *economic* protection against short-run shocks and livelihood risks. They have highlighted the additional 'transformative' function of social protection, which involves actively addressing issues of equity and structural vulnerability to deprivation that are embedded in socio-political contexts. This function is harnessed by 'rights-based'

approaches to social protection, through the "pursuit of policies that integrate individuals equally into society, allowing everyone to take advantage of the benefits of growth, and enabling excluded or marginalised groups to claim their rights" (Sabates-Wheeler & Devereux, 2007: 24).

7.2.2 Analysing the evidence base

I examined how the current evidence base on this topic considers or assesses social protection's contribution to climate change adaptation efforts. I did this by combining the '3P+T' typology and an adapted version of Béné et al. (2012) framework for resilience capacities. 'Absorptive capacity' enables short-term coping strategies to buffer shocks; 'adaptive capacity' facilitates longer-term but incremental adjustments for dealing with shocks; and 'transformative capacity' effects structural change that reduces entrenched social inequalities.

I found general agreement that what social protection (on its own) offers through its protective function (i.e. helping people meet basic needs) is a prerequisite for adaptation; and that when the agenda's preventive and promotive functions are also harnessed, social protection can support forward-looking planning for building more resilient livelihoods. In contrast, I found the attention paid to social protection's transformative function – and by consequence, its role in enhancing transformative capacity for climate change adaptation – to be limited. Only one case study on India's Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) showed that the programme had helped shift power relations between labourers and local elites, as well as between women and men within their households (Godfrey-Wood & Flower, 2017).

Importantly, I also found the literature cautioning that the contribution of social protection to adaptation goals should not be overstated. There is particular concern that the low level of support programmes typically provide is insufficient for managing long-term climate risks and might also lead to coping strategies that are maladaptive in the long run. This said, there is no out-right rejection of an integrated social protection and climate change agenda in this literature. Rather, it reminds us not only of the need to further strengthen social protection systems given increasing climate risks, but also to

view social protection as only one element within wider efforts to support the adaptation process.

7.2.3 ASP: from conceptualisation to concretisation

Finally, with regards to an integrated social protection and climate change adaptation agenda, I found little difference between the proposed design features for 'adaptive', 'climate-responsive' or 'shock-responsive' social protection systems. They converge especially around i) strengthening climate information systems to plan for and deliver social protection; ii) scaling up the level of support to recipients as well as the number of people programmes and systems can cover; iii) putting in place appropriate finance mechanisms to deliver social protection at scale; and iv) enhancing institutional capacity and coordination among the wide range of stakeholders involved in the delivery of social protection. As such, these qualifiers are often used interchangeably (although, 'shock-responsive social protection' is generally understood to consider covariate shocks beyond climate-related ones, such as earthquakes, and to sit with disaster risk management in the humanitarian-development spectrum of actions (Béné et al., 2018; C. O'Brien et al., 2018)).

Interestingly, however, the first to coin the term 'ASP' were Davies & Leavy (2007) and Davies, Guenther, Leavy, Mitchell, & Tanner (2009), who adopted the rights-based, transformative approach to social protection championed by their colleagues Devereux & Sabates-Wheeler (2004). In proposing the concept, they argued social protection can help adaptation (and disaster risk reduction) better address the structural roots of poverty and vulnerability to weather extremes, through efforts to strengthen or transform the productive livelihoods of the poor (Davies et al., 2009). But as the ASP concept becomes more popular and the agenda develops, I found that it has come to be more aligned with the growth-oriented framing of Kuriakose et al. (2013)'s 'climate-responsive social protection', which overlooks this important transformative function. Its primary focus is on making technical adjustments to social protection programmes directed towards biophysical climate risks, as the design features outlined above reflect.

7.2.4 Paper 1's conclusions and contributions

My first paper thus drew parallels between Devereux and Sabates-Wheeler (2004)'s reservations about dominant social protection approaches and the critique of mainstream adaptation by political ecology-oriented scholars. Both are pointing to the need to tackle root causes of poverty and vulnerability. They are also questioning how the socio-political contexts within which actions are implemented might themselves be reinforcing entrenched power structures that lead to differentiated impacts of shocks within society. Conceptually, then, I argued the integration of adaptation with rights-based social protection (i.e. what constitutes the original intention for the ASP agenda) has strong potential to open pathways for transformative adaptation. However, this potential is being overlooked, not only in the literature considering the intersection of climate change adaptation and social protection, but also in the way the ASP concept and agenda are evolving and being put into practice.

This paper contributed a critical analysis of a topic that was previously only being discussed in policy circles. An important policy insight it offered is that a premature focus on making social protection (technically) 'adaptive' risks over-burdening currently imperfect programmes and systems. This is also in line with Ulrichs, Slater, & Costella (2019) and Agrawal et al. (2019)'s conclusions. It furthermore argued that doing so also perpetuates a narrow interpretation of vulnerability as arising from biophysical climate hazards, which ironically undermines social protection's transformative potential to address the structural roots of vulnerability to climate change.

7.3 What are potential barriers to adopting a transformative approach to ASP at the national level?

My second paper (Chapter 4) approached the second sub-question of this thesis. It built on the conclusions of my first paper around the importance of rights-based approaches to ASP for addressing structural roots of vulnerability. Using the lens of Ethiopia's flagship Productive Safety Net Programme (PSNP), I sought to uncover some of the barriers to the adoption of such an approach.

7.3.1 An inductive process

I began data collection with a view to better understand why the programme is considered by many to be 'adaptive' or 'climate-smart' (or even, an adaptation programme (European Commission, 2015; House of Commons Environmental Audit Committee, 2011; Rodriguez Fortun, 2017)). Already in this early stage of research, it became clear to me that: i) despite its newfound reputation as a 'climate-smart' programme, no major changes had (yet) been made to PSNP programming to improve its consideration of climate change risks; ii) there is rapid emphasis on the *productive* characteristic of the safety net, i.e. the results achieved through its principal, public works component; and iii) even after almost 15 years of operations, the 'founding story' of the PSNP remains fresh in people's minds and is relevant to discussions on its future as a 'climate-smart' programme. Regarding the latter point, the Federal Democratic Republic of Ethiopia's first Prime Minister, the late Meles Zenawi, came up in conversations frequently as having played a key 'champion' role in the establishment of the PSNP, just as he did a decade later in the development of the country's Climate Resilient Green Economy (CRGE) strategy (Jones & Carabine, 2015; Paul & Weinthal, 2019).

This led me to refine my research focus onto the *discursive* aspects of Ethiopia's climate and development policy and re-branding of the PSNP as 'climate-smart,' and to dive deeply into the historical context that produced these discourses. In the tradition of Foucault (1972) and political ecology scholarship on society's relations with the environment, I understand discourses as a key channel through which power is situated, operates and is reproduced.

7.3.2 Narratives that render the PSNP 'climate-smart'

Through my analysis, I showed that narratives of moral leadership and green growth associated with Ethiopia's widely hailed CRGE shape the PSNP's 'climate-smart' evolution. I argued that these climate narratives are part of a longer political process to shed Ethiopia's past image as a famine-stricken country, which historically, had greatly undermined the State's power at home and internationally. Following the removal of the military regime, the new Federal Republic of Ethiopia had been keen to turn over a

new leaf and be seen as an African leader (Lavers, 2019; Müller, 2013). In fact, the PSNP was established as part of a promise to deliver food security—a promise that the Government knew was crucial to keep in order to stay in power (Lavers, 2019). As such, the narrative of moral leadership in the face of a global climate crisis, I argued, not only serves to strengthen Ethiopia's geopolitical influence; but it also shifts the blame for any current or future food insecurity away from the State and onto climate change and the greenhouse gas emissions of wealthier countries.

I also showed that pre-existing narratives of environmental degradation caused by the unsustainable agricultural practices of rural populations rationalise the PSNP's design as a public works programme—and they are now similarly cementing its technocratic approach to adapting to climate change. These narratives had already justified past, large scale food-for-work programmes, which possessed environmental rehabilitation objectives bearing uncanny resemblance to those of the PSNP (Hoben, 1996, 1997; Keeley & Scoones, 2003). As such, environmental degradation has continued to be 'rendered technical' as a problem to be fixed with highly technical solutions (Li, 2007), which, in this case, are delivered through the public works. Underpinning these narratives is the deeply political goal to create productive citizens to fuel rapid, agricultural development-led growth (Keeley & Scoones, 2003). I argued that this same goal is advanced today through re-packaged narratives of climate-resilient green growth, where the objective is to protect the economically important agricultural sector from the impacts of climate change. The 'climate-smart' PSNP is thus also being shaped to fit squarely within this goal; indeed, it doubles down on its environmental rehabilitation-focused public works by claiming benefits for both climate resilience and carbon sequestration.

7.3.3 Paper 2's conclusions and contributions

This paper showed that the climate narratives shaping the PSNP's technocratic, 'climate-smart' evolution are historically produced; they have long rationalised the presence of a strong central State and its control over land and rural livelihoods. By reproducing the political status quo, they dilute the potential of the PSNP to serve more transformative objectives that would help address the structural roots of PSNP participants'

vulnerability to climate change. This is especially regrettable because Ethiopia's recent National Social Protection Policy (FDRE, 2014a) provides a concrete entry-point for advancing more rights-based social protection goals.

My study contributed a new 'climate' chapter to the analysis of 'received wisdoms' on the environment in Ethiopia that began with Hoben (1996, 1997) and continued with Keeley & Scoones (2003). But whilst it focused on the PSNP, its conclusions are not unique to the Ethiopian context. I illustrated how dominant and widespread climate discourses are used to uphold existing political interests and influence the evolution of development trajectories and interventions such as social protection. Rather than taking the opportunity of climate change to reflect on and challenge the socio-political structures that have historically shaped relational vulnerability, I argued that these discourses have ultimately become barriers to societal transformation.

7.4 How can 'technocratic' ASP programmes be assessed against transformative aims?

Finally, my third paper (Chapter 6) approached the third sub-question of this thesis, again using Ethiopia's PSNP as a case study. With this paper, I continued to advocate for a transformative approach to ASP and the adoption of a contextual understanding of vulnerability to climate change; however, I sought to make these concepts more accessible to an audience of policymakers and practitioners. I took advantage of the PSNP having been officially branded an 'adaptive' safety net for its fifth phase of implementation (PSNP-5) to assess its alignment with transformative ASP aims.

7.4.1 Does PSNP geographic targeting reflect a transformative ASP approach?

I focused specifically on the PSNP's system of geographic targeting. The Government's first-stage selection of *woreda*s (districts) to be covered by the programme determines which households will ultimately receive support (FDRE, 2020b). Prior to PSNP-5, this selection was based on food aid allocation data from the previous three years (Berhane

et al., 2014; World Bank, 2020). Because PSNP-5 shifted the focus of the safety net away from reducing chronic food insecurity to 'reducing extreme poverty through shocks', this is no longer the case (FDRE, 2020b). From now on, it intends to target *woreda*s (and subsequently, households) that are most 'drought-prone' (*ibid*).

Using binary logit regression, I assessed whether *woreda*s that were covered by the PSNP at the start of its fifth phase (2021) are those that are most exposed to three major risks in the country: drought, flooding, and political conflict. Drought and floods are biophysical hazards that Ethiopia's CRGE identifies as posing major threats to the population and economy (FDRE, 2015a); but whilst targeting drought-prone *woreda*s is a stated objective of the PSNP, the safety net is not explicit in its attention to floods. Conflict, meanwhile, represents a social, contextual risk that has long been present in the country and which has been escalating in recent years.

7.4.2 Contrasting results for year-to-year drought and multi-year drought

As I expected, I found that the probability of PSNP coverage by *woreda* increases with the experience of year-to-year drought conditions (controlling for poverty headcount rate and population density). A result that I had not anticipated, however, is that those with a tendency for higher multi-year variability in drought are *less* likely to be covered.

This contrasting result reflects diverging spatial patterns between the experience of year-to-year drought and that of multi-year drought, as well as seasonal differences in precipitation trends. I found that the positive association between PSNP coverage by *woreda* and the experience of year-to-year dry conditions is stronger if I only consider the *Kiremt* summer rainfall season. Similarly, the negative association between PSNP coverage and the experience of multi-year dry conditions is stronger if I only consider the *Belg* spring rainfall season. The *Kiremt* rains occur during Ethiopia's primary cultivation season in moisture-rich highland regions especially. They record high year-to-year variability (Trisos et al., 2022). Historically, it is the failure of these rains that has been associated with the country's devastating famines (Suryabhagavan, 2017; Wainwright et al., 2019). Yet, the *Belg* rains – for which a more pronounced drying trend is observed – also occur during cultivation season, and are particularly important for the country's smallholder farmers and pastoralists in dryland regions (Funk et al., 2008;

Funk, Nicholson, et al., 2015; Hoell & Funk, 2014; Liebmann et al., 2014; Lyon, 2014; Rowell et al., 2015; Taffesse et al., 2012; Williams & Funk, 2011; Yang et al., 2014).

7.4.3 Exposure to flood risk does not increase or decrease the likelihood of PSNP coverage

I furthermore found no association between the probability of PSNP coverage and flooding risk. In other words, having a higher share of the population located in flood risk zone does not increase nor decrease the likelihood that a given *woreda* is targeted by the programme. This result is not surprising, given that responding to flood-related shocks is not an explicitly stated objective of PSNP-V. However, my data and analysis showed that it is a major climatic risk that is unevenly distributed across the country.

7.4.4 PSNP coverage and conflict: a more complicated picture

My analysis regarding conflict risk revealed that PSNP-5 is currently well-targeted toward *woreda*s facing disproportionately high levels of political insecurity. However, these results do not necessarily suggest that the programme takes conflict risk into account. Rather, it reflects the exponentially higher levels of insecurity that northern parts of Ethiopia are presently experiencing. Indeed, when I disregarded conflict events that occurred in 2020 and 2021, this association disappeared. Furthermore, there are reports of severe disruptions to PSNP operations in current conflict-affected regions (FEWS NET et al., 2021; Lind et al., 2022; UN OCHA, 2022). As such, I argued that the likelihood of coverage for *woreda*s with progressively higher levels of conflict exposure might be increasing in theory, but not necessarily in practice.

7.4.5 Paper 3's conclusions and contributions

This study offered a rare, district-level spatial analysis of the PSNP using a combination of unique high-resolution datasets. Its findings that PSNP-5 is currently privileging *woreda*s prone to year-to-year drought (that particularly affects the primary cultivation season in agriculturally productive areas) supports Paper 2's conclusions that both the spectre of famine and the promise of agricultural growth underpin PSNP programming. The findings that it is not well-targeted towards those experiencing higher multi-year drought and that flood risk exposure is a poor predictor of coverage furthermore

pointed to two major biophysical climate risks PSNP administrators could consider in targeting decisions. Lastly, the lack of convincing evidence that the safety net is attentive to conflict risk suggested that greater consideration of contextual vulnerability is also needed.

Of course, the consideration of other risks might be more appropriate. Conflict incidence, for instance, is only one example of a social determinant of vulnerability. Besides being difficult to measure, the limited availability of quantitative and spatial data (together with a lack of harmonisation of existing spatial data) constitutes a major barrier to a more comprehensive consideration of contextual vulnerability. Nevertheless, my analysis contributed a practical starting point for assessing the alignment of 'technocratically' adaptive programmes like the PSNP with 'transformative' ASP approaches.

7.5 How transformative is ASP?

Together, the papers contained in this thesis have offered critical, multi-method scholarship on ASP as a still-evolving policy agenda. Throughout my analysis, I adopted the perspective that to be transformative, ASP (and climate action more broadly) must situate vulnerability to climate change in the wider context within which biophysical hazards emerge.

Collectively, my studies have shown that a potential pathway towards transformative adaptation is at the tip of our fingers with ASP. However, the core transformative function that ASP offers is currently being overlooked by the adaptation and development community of practice. Policymakers and practitioners have been more interested in maximising the co-benefits of (outcome) vulnerability reduction and poverty alleviation that this 'no-regrets' agenda promises. As has been the case in Ethiopia, much of the focus has been on reframing or making technical adjustments to existing programmes and systems, so that they are better able to manage biophysical risks associated with climate change. This approach is well-intentioned and does have its merits. However, as Paper 2 showed, it glosses over the historical, political and social

contexts wherein vulnerability originates, which underpin development and adaptation choices. This leads to the perpetuation, and potentially exacerbation, of vulnerability. Paprocki (2018, 2019, 2021, 2022a) adds, recasting development as adaptation in this manner also cements claims about which visions of the future under climate change are viable and desirable while undermining others. Adopting rights-based approaches that understand vulnerability as a product of these structural factors should therefore be at the heart of ASP if the agenda is to avoid these pitfalls.

However, my research also pointed to the limitation of normative calls for transformation and its translation into policy— what Blythe et al. (2018) have termed 'the dark side of transformation.' A key point that I underlined throughout this thesis is that the ASP concept originally proposed by Davies & Leavy (2007) and Davies et al. (2009) precisely highlighted its transformative function. But in a similar fashion that Scoones (2009) recounted about Chambers & Conway (1992)'s influential Sustainable Rural Livelihoods approach, Paper 1 showed these rights-based roots and their consideration of power and politics were lost almost as soon as ASP became a policy-prescriptive goal. Blythe et al. (2018) argue that this is also the case for the transformation agenda itself; indeed, the transformation discourses that are now ubiquitous in international development goals, frameworks and agendas are a far cry from the radical concept proposed by critical theorists (*ibid*).

Such deep, radical transformation is difficult to conceive, however. As Paper 2 reflected, it is often not in the political status quo's interest to challenge current structures. The practice of labelling or branding existing programmes as 'adaptive' or 'climate-smart' and updating entrenched narratives to advance current political goals reflects how easily this status quo is maintained. Although Paper 3's consideration of conflict risks as a proxy for contextual vulnerability is not perfect, it helps broaden understanding amongst decision-makers of why such social drivers of vulnerability are important to account for. As such, it offered a tangible step towards advancing a more transformative ASP policy agenda. Indeed, a frequent criticism about critical perspectives of adaptation and development (and critical social theory more broadly) is a lack concrete recommendations about the way forward (Sherman et al., 2016).

Ultimately, through this thesis I have underlined the critical need for social protection policies and programmes as the world faces increasing climatic risks. The COVID-19 pandemic made this need even more apparent, by exposing coverage gaps worldwide (International Labour Office, 2021). However, I am concerned that the ASP agenda is focused too narrowly on adapting programmes and systems to better respond to biophysical climate risks. The transformative potential of the 'adaptive social protection' agenda lies within its core 'social protection' function, not technocratic adaptation. Directing already limited resources away from this risks undermining efforts to *leave no one behind* in the global response to climate change. However, the high level of interest, research and action this agenda continues to generate is extremely promising. It signals that the opportunity to nurture ASP's rights-based roots still exists—and with it, a step forward towards social transformation.

Appendix A:

Supplementary material to Chapter 3

Articles published since 2019

Several relevant articles or reports on climate change and social protection have been published since 2019, which are not considered in my first paper (Chapter 3). Among these that are seven peer-reviewed ones, which I summarise below. The contents of these articles do not change the overall argument and findings of the paper.

Like my paper, articles by Aleksandrova (2020), Aleksandrova & Costella (2021) and Norton et al. (2020) are based on the study of existing evidence pertaining to the integration of social protection and climate change. Aleksandrova (2020) presents a similar review of the literature on social protection, climate change adaptation and disaster risk reduction, with the conceptual arguments that she argues form the basis of future work on climate-responsive social protection. These include gearing social protection systems to consider such issues as urbanisation and migration, the impact of green policies on the poor, access to essential healthcare and risks to socially marginalised groups. The author concludes with key recommendations to guide this process, such as: strengthening understanding and integration of climate-related risks and uncertainties into decision-making on social protection; supporting both incremental and transformative adaptation efforts; and approaching climate-responsive social protection through a multi-sectoral (rather than siloed) approach.

Norton et al. (2020)'s opinion piece argues that public works programmes such as India's Mahatma Gandhi National Rural Employment Guarantee Scheme, Ethiopia's Productive Safety Net Programme (PSNP) and Mexico's Temporary Employment Programme, can offer benefits in terms of improvements in local ecosystems and natural capital, carbon sequestration and local biodiversity conservation. The authors state that harnessing this potential requires strengthening institutional systems for delivering social assistance in a manner that enables a more effective combination of social and environmental objectives. Aleksandrova & Costella (2021) agree with this general recommendation, while focusing on how social protection can help manage risks associated with slow-onset impacts of climate change, such as desertification, sea level rise and loss of biodiversity. In their paper, they also discuss options for financing such systems, including: additional taxes and social insurance contributions (based on principles of

affordability, equity, and social efficiency); innovative domestic financing, such as carbon market revenues; and utilising financial mechanisms established through the multilateral and bilateral climate cooperation, such as the Green Climate Fund.

Daron et al. (2021)'s article also constitutes a 'think-piece,' though it offers lessons learnt from the implementation of the 'Adaptive Social Protection: Information for enhanced Resilience' ('ASPIRE') project in Sahelian West Africa, which the authors were involved in. They find that while there is potential to use seasonal forecasts in the World Bank's ASP programme for this region, significant barriers to doing so exist. These include knowledge gaps in understanding the impacts of seasonal variations for the region, as well as sparse observation data to evaluate forecasts. Moreover, they note that entry points for integrating seasonal climate forecasts are not only difficult to identify, but also to incorporate in existing early warning systems used to inform ASP. In light of these lessons, the authors recommend continued investment in climate and livelihoods research, data and services, and further strengthening the capacity of and dialogue between actors to co-develop climate forecasts and provide actionable information.

The rest of the papers provide empirical analyses to assess or inform work on integrating social protection and climate change action. Schnitzer (2019) simulates the performance of various household targeting methods for adaptive social protection, using panel data from Niger. The author finds that there is no single top-performing targeting method; instead, combinations of geographical, proxy-means testing, and household economy analysis approaches could help identify those suffering from chronic poverty and transient food insecurity as part of a scalable ASP system. Scognamillo & Sitko (2021) find that participation in the Malawi Social Action Fund (MASAF) significantly increases the likelihood of farm households adopting climate-smart agriculture practices (in this case, building soil and water conservation structures and applying organic fertilisers), and sustaining these practices over multiple agricultural seasons. These findings highlight the benefits of improving coordination between existing policies and programmes on social protection and climate-smart agriculture, they argue. Finally, Dasgupta & Robinson (2021) investigate the impact of climate and weather shocks on food insecurity in Ethiopia. Their findings include that the PSNP's provision of cash

transfers reduces the probability of food insecurity among recipient households, whereas food assistance does not.

Appendix B:

Supplementary material to Chapters 4 and 5

B.1 Historical and political context of development in Ethiopia

The following is a more detailed version of Chapter 4, Section 4.3.

Ethiopia has undergone several major political transformations in the last century, turbulently shifting from Imperial to Marxist military then to democratic governance regimes. In the following, I briefly reflect on how a drive for modernisation, the experience of famine and State control over land resources have had bearing on the rise and fall of past regimes, to shed light onto the context in which the PSNP was designed and established as a growth-oriented programme.

Imperial ambitions for regional power: 'Defensive' modernisation through foreign policy

The Emperor Menelik II – who reigned from 1889 to 1913 – is widely credited to be the founder of present-day Ethiopia for unifying disparate, warring territories and forming a central government in Addis Ababa (Tibebu, 1996). Thanks to his keen interest in strengthening his military with new technologies, the Emperor famously defeated Italian invaders in 1896 and protected Ethiopian independence during the Scramble for Africa, earning the country recognition as a regional power early on (Asserate, 2015; Pankhurst, 1967). He thereafter built diplomatic relations with various external actors, including the French, Swiss, British and Russians (Pankhurst, 1967). This not only reduced Ethiopia's isolation, but also supported the Emperor's ambition to modernise the country (beyond its military) particularly through technology acquisition and infrastructure development (*ibid*).

Menelik II's immediate successors were the never-crowned Emperor Lij Iyasu (from 1913 to 1916 period) and the Empress Zewditu (from 1916 to 1930); however, it was the latter's Regent and designated heir, Haile Selassie, who saw value in pursuing modernisation through foreign policy, for the benefit of himself and the country. During his years as Regent (or *de facto* ruler of Ethiopia), he successfully entered Ethiopia in the League of Nations, representing a victory both over neighbouring colonial powers still seeking to expand their influence on the continent, and over domestic opponents to his modernist reforms and ambitions (Asserate, 2015). Once he ascended the throne in

1930, he introduced the country's first written Constitution which would begin dismantling its (said to be out-of-date) feudal system—though it shrewdly further concentrated the power of State administration to the Emperor himself (Asserate, 2015; Vaughan, 2011).

The economic boom which Ethiopia experienced in the early years of his reign came to a halt with the invasion of Mussolini's Italy in 1935 to 1941, however. While in exile, Haile Selassie made an impassioned speech at the League of Nations, highlighting the duty of its members not to abandon Ethiopia in the hands of its more powerful aggressor (Selassie, 1936). Although his words fell on deaf ears at the meeting, they left a lasting impression of the Emperor as a moral leader on the world stage (TIME Magazine, 1936). When he finally returned and liberated the country in 1941 with support from British forces, he declared 'a new era in the history of Ethiopia' (Asserate, 2015). Indeed, his diplomatic ventures resumed in full swing after the Second World War, particularly with the United States (which now sought to curb European presence in Africa and was weary of growing Soviet influence); with these came more schools, hospitals, critical infrastructure, trade, a national army, and growing cohort of Ethiopians sent to be educated abroad with the promise of a position in civil service on their return (Asserate, 2015). Ethiopia moreover became a founding member of the United Nations and host to the UN Economic Commission for Africa (UNECA) under his leadership, and was instrumental to the creation of the Organisation for African Unity (the precursor to the African Union) as the continent underwent a process of decolonisation (Coleman, 2008). The country – and the Emperor himself – thus acquired an image of African self-confidence, independence and leadership that still resonates in Ethiopian nationalism today (Asserate, 2015; Clapham, 2018).

The absolute power held by the aging Monarch soon began fuelling discontent, however, not least because outside of Addis, Ethiopians benefited little from his modernist reforms; most continued to lead the impoverished, agrarian livelihoods they led prior to the Italian occupation, possessed no land tenure security, and had to provide a share of their crops as rent or feudal dues to the remaining land-owning aristocracy (Ottaway, 1986). The final decades of his reign were marked by a failed coup in 1960 followed by student uprisings over this growing inequality (among other issues),

culminating with a disastrous drought-related famine in 1972-73 in the northern provinces of Tigray and Wollo—imagery for which circulated around the world and stood in stark contrast to the seemingly opulent lifestyles of the Emperor and his court (Asserate, 2015; Kapuscinski, 1989). It later also became known that the Government had incomprehensibly exported more than 200,000 tonnes of grain at the height of the famine (Asserate, 2015). In 1974, Haile Selassie was finally overthrown, and the Ethiopian Empire brought to a brutal end. Thus began the 'Derg' regime, a period of military dictatorship under Mengistu Haile-Mariam.

Power and control under the Derg: Modernising through land reform

Whereas the Imperial regime's pursuit of modernisation had been tied to a desire to defend the power it held from hostile neighbours and later increase its influence on the world stage, for the new Soviet-backed government, it translated into the top-down management of the country's natural resources and heterogeneous population through radical land reforms. Thousands of peasant associations (or *kebele*) were immediately formed to redistribute now-nationalised land into equal plots amongst their members and decide on how they would be cultivated (Bekele & Kjosavik, 2016; Ottaway, 1977, 1986). A few years later, the government began prioritising the creation and expansion of state farms to boost food production, influenced by the policies of the Soviet Union which provided Ethiopia with funds, machinery and technicians (Ottaway, 1986). Finally, by the mid-1980s, it pushed hard for collectivisation with the launch of a villagisation campaign, moving scattered households into villages; whilst this was done on the ground that health and social services can be provided more efficiently this way, in reality, a strict grain quota delivery system imposed on the new villages guaranteed cheap and regular transfers of food commodities to urban political bases (Bekele & Kjosavik, 2016; Ottaway, 1986). Villagisation was soon accompanied by a larger programme of resettlement, involving the forced relocation of millions from drought-affected areas onto the collective farms of more agriculturally productive regions (Alemu et al., 2002; Hoben, 1996; Ottaway, 1986). As Ottaway (1986) argues, these policies underlined that all of Ethiopia's land and resources belongs to all Ethiopians, i.e. not to individual ethnic groups; as such they served to quell any attempt at regional self-government that would diminish the authority of the State.

This was a valid concern for the increasingly unpopular Mengistu regime, whose reforms did little to alleviate Ethiopia's severe food insecurity. On the contrary, from 1984 to 1985, the country experienced yet another devastating famine, becoming once again the focus of unwanted media attention (Keller, 1992; Müller, 2013). As it later came to light, the Derg had a clear hand in the disaster by restricting the movement of goods and aid to quash political dissidents (de Waal, 1991, 1993; Keller, 1992; Shepherd, 1985). Among the strongest of these insurgent groups were the Tigray People Liberation Front (TPLF), which then joined forces with other ethnic movements to create the Ethiopian People's Revolutionary Democratic Front (EPRDF) with backing from the US (Ottaway, 1995). The Mengistu regime was eventually defeated in 1991, and, following a period of transition, the new Federal Democratic Republic of Ethiopia (FDRE) was formed. The leader of the TPLF and thereafter EPRDF, Meles Zenawi, was elected as its first Prime Minister in 1995.

New beginnings?: An era of 'ethnic federalism'

Ethiopia's new Constitution instituted the current system of 'ethnic federalism,' which restructured the country into nine self-administered, ethnicity-based regional states and two city administrations (Admassie & Abebaw, 2014). The Federal Government in Addis Ababa nevertheless retains much power, particularly over matters related to the country's development (Bekele & Kjosavik, 2016). As I argue next, the founding story and the design of the PSNP reflect the continued importance of modernisation and accelerated growth to advance the agenda of the new democratic regime. The practice of politics employed by the State – which i) ensures its survival against perceived threats to power (such as internal conflict, chronic food insecurity and poverty), ii) restores its influence on the world stage, and iii) rationalises its control over natural resources and a physically dispersed, multi-ethnic population – are likewise rooted in the experiences of the past. These politics are now also being reproduced through Ethiopia's climate narratives, which shape the evolution of the climate-smart PSNP.

B.2 Key informant interviews: dates and categories

	Interview date	Category
IC-1	2019-03-26	*International consultant*
GR-1	2019-03-27	*Government representative*
GR-2	2019-03-28	*Government representative*
NC-1	2019-03-29	*National consultant*
NGO-1	2019-04-03	*Non-Governmental Organisation representative*
NGO-2	2019-04-04	*Non-Governmental Organisation representative*
MLA-1	2019-05-09	*Multilateral institution representative*
IC-2	2019-10-03	*International consultant*
IC-3	2019-10-03	*International consultant*
NGO-2	2019-10-10	*Non-Governmental Organisation representative*
DR-1	2019-10-10	*Donor institution representative*
CSO-1	2019-10-14	*Local Civil Society Organisation representative*
MLA-2	2019-10-16	*Multilateral institution representative*
GR-3	2019-10-18	*Government representative*
MLA-3	2019-10-22	*Multilateral institution representative*
NC-2	2019-10-22	*National consultant*
NC-3	2019-10-23	*National consultant*
NC-4	2019-10-23	*National consultant*
GR-4	2019-10-24	*Government representative*
DR-2	2019-10-28	*Donor institution representative*
GR-5	2019-10-28	*Government representative*
DR-1	2019-10-29	*Donor institution representative*
IC-4	2019-11-01	*International consultant*
NC-5	2019-11-01	*National consultant*
NGO-3	2019-11-03	*Non-Governmental Organisation representative*
MLA-4	2019-11-12	*Multilateral institution representative*
MLA-5	2019-11-13	*Multilateral institution representative*
IC-5	2019-11-14	*International consultant*
NC-6	2020-02-17	*National consultant*
NC-7	2020-02-17	*National consultant*
GR-6	2020-02-17	*Government representative*
IC-5	2020-02-24	*International consultant*
GR-7	2020-02-25	*Government representative*
MLA-6	2020-03-10	*Multilateral institution representative*

B.3 Sample participant information sheet and consent form

THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

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17 September 2019

PARTICIPANT INFORMATION SHEET

Thank you for considering participating in this study which is taking place from 17 September to 4 November 2019 in Washington DC, London and Addis Ababa. This information sheet outlines the purpose of the study and provides a description of your involvement and rights as a participant, if you agree to take part.

1. What is the research about?

This study is part of a larger research project that explores the role of social protection policies in supporting adaptation to climate change in East Africa. It seeks to understand the processes through which the Government of Ethiopia integrated climate change adaptation goals in its national social protection programme (the Productive Safety Net Programme (PSNP)). It is interested in mapping actors, institutions and networks involved in the design and implementation of the PSNP, understanding these different groups' reasons for supporting the integration of climate change adaptation goals, and understanding what trade-offs were or are being made in this policy process. Ethiopia's PSNP has been hailed as 'Africa's largest climate-resilient programme.' Ultimately this study aims to generate and share lessons for other countries in the region and the wider social protection and adaptation community.

The study is being conducted by Janna Tenzing, PhD candidate at the London School of Economics and Political Science (LSE).

2. Do I have to take part?

It is up to you to decide whether or not to take part. You do not have to take part if you do not want to. If you do decide to take part, I will ask you to sign a consent form which you can sign and return in advance of the interview, or sign at the meeting.

3. **What will my involvement be?**

You will be asked to take part in an interview as an expert in the field of social protection and/or climate change adaptation, and/or as a person involved in the design, implementation, funding, and/or decision-making processes of Ethiopia's Productive Safety Nets Programme, or another social protection programme in Ethiopia or in the Sub-Saharan Africa, Latin America and Caribbean or Asia-Pacific regions. The interview is expected to take 1 hour.

4. **How do I withdraw from the study?**

You can withdraw at any point of the study, without having to give a reason. If any questions during the interview make you feel uncomfortable, you do not have to answer them. Withdrawing from the study will have no effect on you. If you withdraw from the study, we will not retain the information you have given thus far, unless you are happy for us to do so.

5. **What will my information be used for?**

I will use the collected information for an academic paper that will form a part of my PhD thesis, and be presented at academic conferences.

6. **Will my taking part and my data be kept confidential? Will it be anonymised?**

The records from this study will be kept as confidential as possible. Only myself and my supervisor (Prof. Declan Conway, Grantham Research Institute, London School of Economics; d.conway@lse.ac.uk**)** will have access to the files and any audio tapes. Your data will be anonymised – your name will not be used in any reports or publications resulting from the study. All digital files, transcripts and summaries will be given codes and stored separately from any names or other direct identification of participants. Any hard copies of research information will be kept in locked files at all times.

7. **What if I have a question or complaint?**

If you have any questions regarding this study please contact the researcher, Janna Tenzing: j.d.tenzing@lse.ac.uk**.**

If you have any concerns or complaints regarding the conduct of this research, please contact the LSE Research Governance Manager via research.ethics@lse.ac.uk**.**

To request a copy of the data held about you, please contact: glpd.info.rights@lse.ac.uk

If you are happy to take part in this study, please sign the consent form attached.

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CONSENT FORM

I have read and understood the study information dated 17 September 2019. I have been able to ask questions about the study and my questions have been answered to my satisfaction.	YES / NO
I consent voluntarily to be a participant in this study and understand that I can refuse to answer questions and I can withdraw from the study at any time, without having to give a reason.	YES / NO
I agree to the interview being audio recorded.	YES / NO
I understand that the information I provide will be used for an academic paper which will form a part of Janna Tenzing's PhD thesis.	YES / NO
I understand that the information I provide will be anonymised.	YES / NO
I agree that my information can be quoted in research outputs.	YES / NO
I give permission for the (anonymised) information I provide to be deposited in a data archive so that it may be used for future research.	YES / NO

Please retain a copy of this consent form.

Participant name: ……..

Signature: …… *Date* ……

Interviewer name: Janna Tenzing

Signature: …… *Date* ……

B.4 Preliminary interview topic guide

Topic 1: Actor/stakeholder mapping

1) Can you tell me about **your role/institution** and **how you've been involved *in PSNP and/or CRGE implementation*?**

- [follow-up] How long have you been working within this process?

2) What (do you think) are the **reasons** for you/your institution to work on this process?

- [**probes:** Institutional mandates (top-down)? Personal sense of importance?]
- [**follow-up**] What does a 'climate-smart' PSNP (or other development programme) mean to you?

3) What other **actors/institutions** do you work with [frequently / occasionally] in this process?

- [**probes:** Government? Civil society / NGOs? Academia? Development partners?]
- [**probes:** scale – global, national, sub-national?]

Topic 2: Coordination and decision-making

4) How does **coordination** among the actors you mentioned happen in this process? (Who reports to whom? Through what lines of communication?)

- **[follow-up]** What do you consider to be the benefits of working this way? (**examples?)**
- **[follow-up]** Are there any challenges you face in this regard? (**examples?)**
- **[follow-up]** How do you deal with those challenges?

5) How do you think **decisions are taken** in this process? What steps are taken to move things forward towards effective implementation?

6) In your view, **who or which institution's buy-in is the most important for ensuring policy change or implementation** (like integrating CCA into the PSNP (or other examples))? **Why?**

7) Have there been occasions where you/your institution (or others) thought taking **another way forward** would have been better? (**examples?**)

- **[follow-up]** Why do you think this way forward was not taken?

Topic 3: Cool down, conclusion

8) Is there anything else you'd like to share about the PSNP/CRGE which we haven't covered enough, in your opinion?

9) Concluding remarks, incl. **thanks**, **permission to follow-up**, and **recommendations of other people to interview**

Appendix C:

Supplementary material to Chapter 6

C.1 Results of full logit models with region fixed effects

The following table reflects coefficients of the full models with region fixed effects; the corresponding nested models are reflected in Table 6.4 (Section 6.4).

PSNP coverage (2021)	(1) $\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	(2) $\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	(3) $\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$
Poverty headcount rate (%)	0.0378*** *(0.0072)*	0.0352*** *(0.0072)*	0.0353*** *(0.0072)*
Population density	-0.0007*** *(0.0002)*	-0.0007*** *(0.0002)*	-0.0007*** *(0.0002)*
No. dry months (SPEI 12-month timescale)	0.0335*** *(0.0106)*		
No. dry months (SPEI 36-month timescale)		-0.0134* *(0.0069)*	
No. dry *Belg* months (SPEI 36-month timescale)			-0.0466** *(0.0207)*
Population exposed to flood risk (%)	-0.0025 *(0.0155)*	0.0011 *(0.0158)*	0.0010 *(0.0158)*
No. conflict events within and close to *woreda* (2005-19)	0.0116*** *(0.0036)*	0.0120*** *(0.0036)*	0.0121*** *(0.0036)*
Constant	-0.2544 *(0.4812)*	0.4104 *(0.4548)*	0.4287 *(0.4548)*
Region FE[2]	YES	YES	YES
N	699	699	699
Chi-square	141.33***	134.94***	136.28***
Log likelihood	-392.2118	-395.4076	-394.7393

****p < 0 .01 **p < 0 .05 *p < 0.1*

[1] Top-end outliers winsorised at 99th percentile.

[2] *Woreda*s in Afar, Benishangul Gumuz, Gambela, Harari, Addis Ababa and Dire Dawa regions are omitted.

C.2 Results of logit models that include both drought variables

The following table reflects coefficients of the models that include both drought variables (Section 6.4.1).

PSNP coverage (2021)	(1)		(2)	
	$\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	OR	$\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	OR
Poverty headcount rate (%)	0.0362*** *(0.0064)*	1.0369	0.0381*** *(0.0065)*	1.0358
Population density	-0.0004** *(0.0001)*	0.9996	-0.0004** *(0.0002)*	0.9993
No. dry months (SPEI 12-month timescale)	0.0786*** *(0.0124)*	1.0817	0.0763*** *(0.0125)*	1.0793
No. dry months (SPEI 36-month timescale)	-0.0494*** *(0.0086)*	0.9518	-0.0486*** *(0.0087)*	0.9867
Population exposed to flood risk (%)	Omitted		Omitted	
No. conflict events within and close to *woreda* (2005-19)[1]	Omitted			
No. conflict events within and close to *woreda* (2005-21)[1]			0.0060** *(0.0024)*	
Constant	-1.9665*** *(0.2730)*		-2.1371*** *(0.2843)*	
N	756		756	
Chi-square	95.61***		101.68***	
Log likelihood	-453.0949		-450.0617	

****p < 0 .01 **p < 0 .05 *p < 0.1*

[1] Top-end outliers winsorised at 99th percentile.

C.3 Results of logit models that consider dry *Kiremt* months only

The following table reflects coefficients of the models that consider the number of dry months occurring in the *Kiremt* season only (Section 6.4.1).

	(1)		(2)		(3)		(4)	
PSNP coverage (2021)	$\hat{\beta}$ (SE)	**OR**	$\hat{\beta}$ (SE)	**OR**	$\hat{\beta}$ (SE)	**OR**	$\hat{\beta}$ (SE)	**OR**
Poverty headcount rate (%)	0.0343*** *(0.0064)*	1.0349	0.0366*** *(0.0064)*	1.0372	0.0312*** *(0.0063)*	1.0317	0.0335*** *(0.0064)*	1.0340
Population density	-0.0004** *(0.0001)*	0.9996	-0.0004** *(0.0001)*	0.9996	-0.0004** *(0.0002)*	0.9996	-0.0004** *(0.0002)*	0.9996
No. dry *Kiremt* months (SPEI 12-month timescale)	0.0813*** *(0.0245)*	1.0847	0.0777*** *(0.0246)*	1.0880				
No. dry *Kiremt* months (SPEI 36-month timescale)					-0.0309* *(0.0264)*	0.9695	-0.0318* *(0.0165)*	0.9687
Population exposed to flood risk (%)	-0.0059 *(0.0102)*	0.9941	-0.0063 *(0.0103)*	0.9937	-0.0031 *(0.0102)*	0.9969	-0.0034 *(0.0103)*	0.9966
No. conflict events within and close to *woreda* (2005-19)	-0.0001 *(0.0031)*	0.9999			0.0008 *(0.0031)*	1.0008		
No. conflict events within and close to *woreda* (2005-21)[1]			0.0066*** *(0.0023)*	1.0066			0.0071*** *(0.0023)*	1.0071
Constant	-1.6634*** *(0.2797)*		-1.8608*** *(0.2860)*		-1.0359*** *(0.2460)*		-1.2484*** *(0.2523)*	
N	756		756		756		756	
Chi-square	59.03***		66.93***		51.40***		60.55***	
Log likelihood	-471.3859		-467.4385		-475.2036		-470.6259	

****p < 0.01 **p < 0.05 *p < 0.1*

[1] Top-end outliers winsorized at 99th percentile.

C.4 Results of logit models that consider dry *Belg* months only

The following table reflects coefficients of the models that consider the number of dry months occurring in the *Belg* season only (Section 6.4.1).

PSNP coverage (2021)	(1)		(2)		(3)		(4)	
	$\hat{\beta}$ *(SE)*	OR	$\hat{\beta}$ *(SE)*	OR	$\hat{\beta}$ *(SE)*	OR	$\hat{\beta}$ *(SE)*	OR
Poverty headcount rate (%)	0.0322*** *(0.0063)*	1.0328	0.0345*** *(0.0064)*	1.0351	0.0315*** *(0.0063)*	1.0320	0.0337*** *(0.0064)*	1.0343
Population density	-0.0004** *(0.0002)*	0.9996	-0.0004** *(0.0001)*	0.9996	-0.0004** *(0.0002)*	0.9996	-0.0004** *(0.0002)*	0.9996
No. dry *Belg* months (SPEI 12-month timescale)	0.0402 *(0.0256)*	1.0401	0.0369 *(0.0258)*	1.0375				
No. dry *Belg* months (SPEI 36-month timescale)					-0.0498*** *(0.0186)*	0.9514	-0.0494*** *(0.0187)*	0.9518
Population exposed to flood risk (%)	-0.0040 *(0.0102)*	0.9960	-0.0045 *(0.0103)*	0.9955	-0.0029 *(0.0102)*	0.9971	-0.0033 *(0.0103)*	0.9967
No. conflict events within and close to *woreda* (2005-19)[1]	0.0004 *(0.0031)*	1.0004			0.0011 *(0.0031)*	1.0011		
No. conflict events within and close to *woreda* (2005-21)[1]			0.0069*** *(0.0023)*	1.0069			0.0070*** *(0.0023)*	1.0070
Constant	-1.4230*** *(0.2817)*		-1.6200*** *(0.2872)*		-0.9498*** *(0.2491)*	0.3868	-1.1607*** *(0.2561)*	
N	756		756		756		756	
Chi-square	50.25***		58.84***		55.18***		63.98***	
Log likelihood	-475.7769		-471.4799		-473.3094		-468.9108	

****p < 0 .01 **p < 0 .05 *p < 0.1*

[1] Top-end outliers winsorized at 99th percentile.

C.5 Results of logit models with region fixed effects

The following table reflects coefficients of the models with region fixed effects, and number of conflict events between 2005 and 2021 (Section 6.4.3).

PSNP coverage (2021)	**(1)** $\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	**(2)** $\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$
Poverty headcount rate (%)	0.0387***	0.0360***
	(0.0073)	*(0.0072)*
Population density	-0.0007***	-0.0006***
	(0.0002)	*(0.0002)*
No. dry months (SPEI 12-month timescale)	0.0333***	
	(0.0106)	
No. dry months (SPEI 36-month timescale)		-0.0119*
		(0.0069)
Population exposed to flood risk (%)	-0.0057	0.0023
	(0.0156)	*(0.0158)*
No. conflict events within and close to *woreda* (2005-21)	0.0113***	0.0113***
	(0.0029)	*(0.0036)*
Constant	-0.8029	-0.1548
	(0.4812)	*(0.4832)*
Region FE[2]	YES	YES
N	699	699
Chi-square	146.80***	134.80***
Log likelihood	-389.4762	-392.9770

****p < 0 .01 **p < 0 .05 *p < 0.1*

[1] Top-end outliers winsorised at 99th percentile.

[2] *Woreda*s in Afar, Benishangul Gumuz, Gambela, Harari, Addis Ababa and Dire Dawa regions are omitted.

C.6 Results of logit models with conflict variable outliers winsorised at the 95th percentile

The following table reflects coefficients of the models with conflict variable outliers winsorised at the 95th percentile (Section 6.4.3).

PSNP coverage (2021)	**(1)** $\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	**(2)** $\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	**(3)** $\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$	**(4)** $\widehat{\boldsymbol{\beta}}$ $(\widehat{SE})$
Poverty headcount rate (%)	0.0337*** *(0.0063)*	0.0364*** *(0.0065)*	0.0313*** *(0.0063)*	0.0339*** *(0.0064)*
Population density	-0.0004** *(0.0001)*	-0.0004** *(0.0002)*	-0.0004** *(0.0002)*	-0.0004*** *(0.0002)*
No. dry months (SPEI 12-month timescale)	0.0304*** *(0.0088)*	0.0280*** *(0.0088)*		
No. dry months (SPEI 36-month timescale)			-0.0126** *(0.0061)*	-0.0130** *(0.0062)*
Population exposed to flood risk (%)	-0.0050 *(0.0102)*	-0.0051 *(0.0103)*	-0.0030 *(0.0102)*	-0.0031 *(0.0103)*
No. conflict events within and close to *woreda* (2005-19)[1]	-0.0006 *(0.0044)*		0.0010 *(0.0043)*	
No. conflict events within and close to *woreda* (2005-21)[1]		0.0107*** *(0.0031)*		0.0116*** *(0.0031)*
Constant	-1.7305*** *(0.2907)*	-2.0036*** *(0.2987)*	-1.0078*** *(0.2497)*	-1.3161*** *(0.2595)*
N	756	756	756	756
Chi-square	60.04***	71.90***	52.16***	66.21***
Log likelihood	-470.8811	-464.9537	-474.8208	-467.7956

****p < 0 .01 **p < 0 .05 *p < 0.1*

[1] Top-end outliers winsorised at 95th percentile.

C.7 Results of logit models with alternative conflict variables

The following table reflects coefficients of the models using two different conflict variables: i) the number of conflict events within a *woreda* boundary; and ii) the number of conflict events within a 0.1-degree buffer of its boundaries (Section 6.4.3). The outliers of these variables have not been winsorised.

PSNP coverage (2021)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	$\widehat{\boldsymbol{\beta}}$	$\widehat{\boldsymbol{\beta}}$	$\widehat{\boldsymbol{\beta}}$	$\widehat{\boldsymbol{\beta}}$	$\widehat{\boldsymbol{\beta}}$	$\widehat{\boldsymbol{\beta}}$	$\widehat{\boldsymbol{\beta}}$	$\widehat{\boldsymbol{\beta}}$
	$(\widehat{SE})$	$(\widehat{SE})$	$(\widehat{SE})$	$(\widehat{SE})$	$(\widehat{SE})$	$(\widehat{SE})$	$(\widehat{SE})$	$(\widehat{SE})$
Poverty headcount rate (%)	0.0334***	0.0341***	0.0310***	0.0315***	0.0353***	0.0347***	0.0329***	0.0322***
	(0.0064)	*(0.0063)*	*(0.0063)*	*(0.0063)*	*(0.0064)*	*(0.0063)*	*(0.0063)*	*(0.0063)*
Population density	-0.0004**	-0.0004**	-0.0004**	-0.0004**	-0.0004**	-0.0005***	-0.0004**	-0.0005***
	(0.0001)	*(0.0002)*	*(0.0002)*	*(0.0002)*	*(0.0001)*	*(0.0002)*	*(0.0002)*	*(0.0002)*
No. dry months	0.0306***	0.0301***			0.0292***	0.0295***		
(SPEI 12-month timescale)	*(0.0088)*	*(0.0088)*			*(0.0088)*	*(0.0088)*		
No. dry months			-0.0125**	-0.0126**			-0.0131**	-0.0125**
(SPEI 36-month timescale)			*(0.0061)*	*(0.0061)*			*(0.0061)*	*(0.0061)*
Population exposed to flood risk (%)	-0.0049	-0.0051	-0.0029	-0.0031	-0.0054	-0.0052	-0.0033	-0.0031
	(0.0102)	*(0.0102)*	*(0.0102)*	*(0.0102)*	*(0.0103)*	*(0.0103)*	*(0.0102)*	*(0.0102)*
No. conflict events within 0.1º of *woreda* boundary (2005-19)	-0.0012		-0.0004					
	(0.0024)		*(0.0024)*					
No. conflict events within *woreda* boundary (2005-19)		0.0036		0.0046				
		(0.0053)		*(0.0054)*				
No. conflict events within and close to *woreda* (2005-21)					0.0033*		0.0039**	
					(0.0018)		*(0.0018)*	
No. conflict events within *woreda* boundary (2005-21)						0.0098**		0.0106**
						(0.0042)		*(0.0042)*
Constant	-1.7163***	-1.7565***	-0.9844***	-1.0178***	-1.8356***	-1.8019***	-1.1262***	-1.0827***
	(0.2871)	*(0.2842)*	*(0.2460)*	*(0.2417)*	*(0.2893)*	*(0.2841)*	*(0.2490)*	*(0.2415)*
N	756	756	756	756	756	756	756	756
Chi-square	60.26***	60.46***	52.13***	52.80***	63.16***	65.32***	56.63***	58.12***
Log likelihood	-470.7701	-470.6696	-474.8376	-474.4992	-469.3202	-468.2393	-472.5883	-471.8412

****p < 0 .01 **p < 0 .05 *p < 0.1*

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