



# Leveraging social protection to enhance farmers' climate adaptive capacities

## SUMMARIZING LESSONS LEARNT

### KEY MESSAGES

- ▶ Social transfers improve beneficiaries' food security outcomes by reducing the likelihood of adverse coping strategies.
- ▶ Social protection interventions increase the probability of adopting climate-smart agriculture (CSA) practices by relaxing beneficiaries' budget constraints and disincentive myopic investment behaviours.
- ▶ Public work programmes improve the adaptive capacities of direct beneficiaries and their community peers in the aftermath of extreme climate events.
- ▶ Available resources should be aligned toward common developmental objectives to ensure efficiency and cost-effectiveness in reaching national food security and adaptation objectives.

The growing risk of experiencing extreme weather events presents a considerable threat to agriculture and farmers' livelihoods. In sub-Saharan Africa, where 53 percent of the population relies on agriculture for their livelihood (ILO, 2022), recurrent droughts and floods are increasing food insecurity and production risks. In fact, climate variability and weather extremes are among the key drivers of the recent rise in hunger, especially in rural areas (FAO *et al.*, 2018). Supporting farmers, especially smallholders, to prepare for, cope with and adapt to climate change is essential to achieve national poverty reduction, food security objectives and economic growth. Identifying effective policy instruments to support the adoption of climate adaptive practices and technologies among smallholders is paramount to reduce the poverty and eradicate hunger (i.e. Sustainable Development Goals 1 and 2).

This brief explores new evidence on the relationships between social protection and farmer resilience to drought-related shocks through adopting adaptive agricultural practices. The main aim is to identify challenges and opportunities to implement integrated strategies to upscale their impact on building climate resilience.

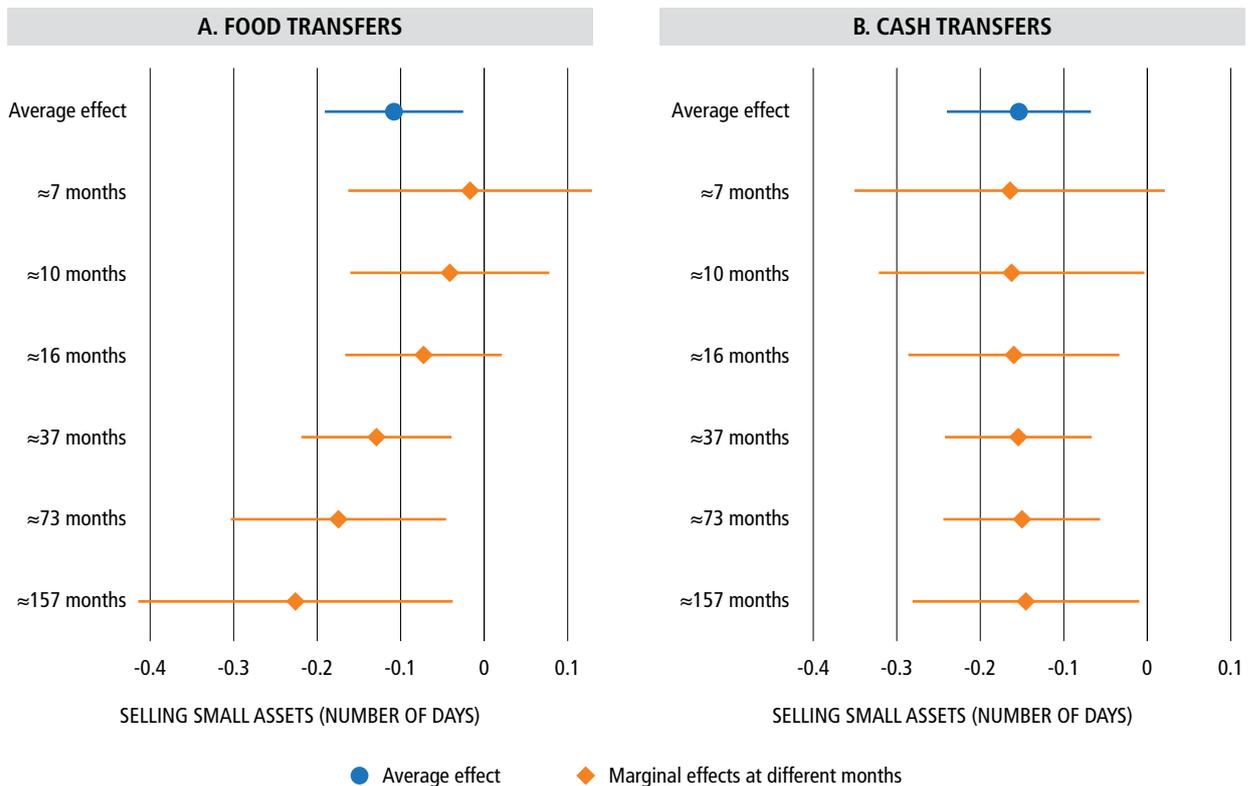
## Building climate resilience with social protection programmes

Social protection programmes are estimated to target around 25 percent of the population and are becoming increasingly widespread in many developing countries worldwide, especially in Africa (World Bank, 2015). The empirical findings on the effects of social protection programmes on beneficiaries' livelihood outcomes depend on contextual characteristics of households and the types and size of transfers, including modalities of implementation, targeting criteria and design features (Daidone *et al.*, 2019). In the past decade, increased attention has been directed toward leveraging social protection to improve vulnerable households' resilience to climate shocks. The results gathered in this brief aim to provide quantitative evidence across different countries in sub-Saharan Africa on the role that social protection interventions may have in increasing adaptive capacities for direct beneficiaries and their communities.

### Social transfers reduce negative coping strategies and increase the probability of engaging in agriculture

Social transfers provide vulnerable households (e.g. refugees in Uganda) with a safety net to better secure their essential food needs. Regardless of whether they take the form of cash or food aid, these transfers reduce beneficiaries' likelihood to resort to adverse coping strategies, such as selling small household assets for additional income (Figure 1).

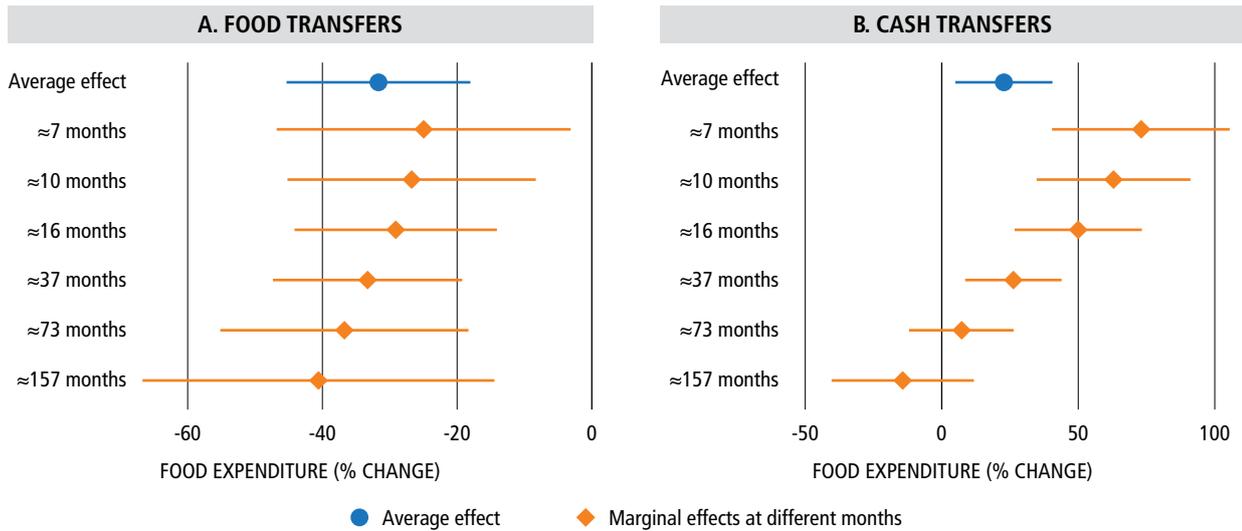
**FIGURE 1** SOCIAL TRANSFERS TO REFUGEES IN UGANDA REDUCE THE HOUSEHOLD LIKELIHOOD OF SELLING SMALL ASSETS



Source: Mastrorillo, M., Scognamillo, A., Ginet, C., Pietrelli, R., D'Errico, M. & Ignaciuk, A. 2022. *Enhancing refugees' self-reliance in Uganda – The role of cash and food assistance*. FAO Agricultural Development Economics Working Paper No. 22–08. Rome, FAO.

Cash and food transfers also improve beneficiaries' food security (Figure 2). On the one hand, households that receive cash transfers are more likely to access food through the markets. On the other hand, food transfers' recipients are more likely to allocate their scarce resources to other consumption purposes as they satisfy their food needs through the in-kind transfer (Mastrorillo *et al.*, 2022). The extent to which one type of transfer performs better than the other depends on the recipient's characteristics, such as the time of permanence into the settlement.

**FIGURE 2 SOCIAL TRANSFERS TO REFUGEES IN UGANDA IMPROVE FOOD SECURITY**

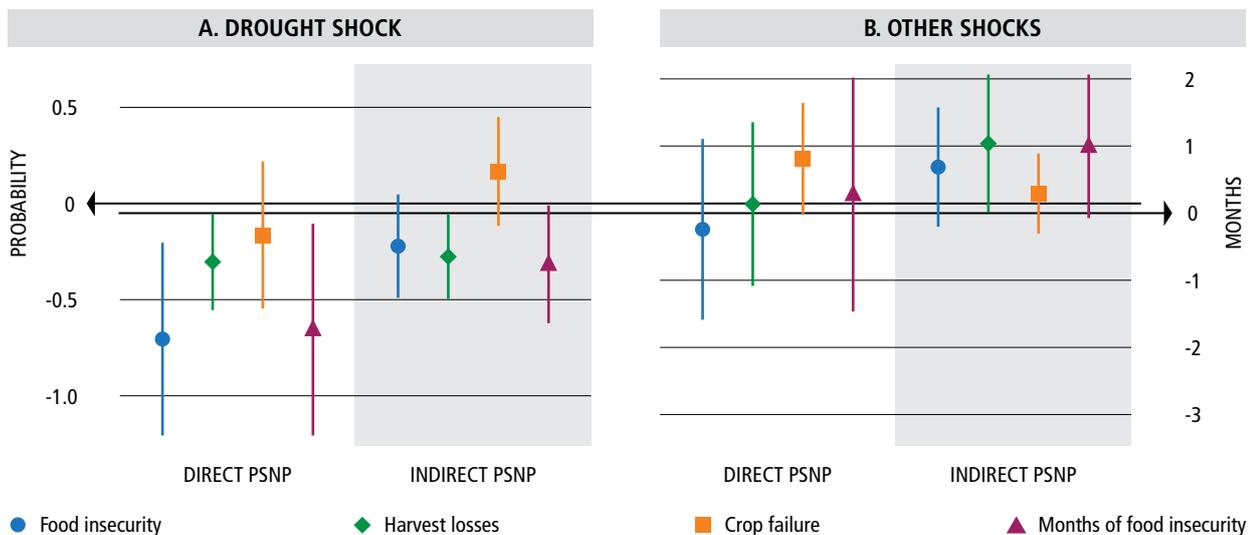


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**Public work programmes improve adaptive capacity to drought-related shocks**

Public work programmes can be designed to meet the most vulnerable households’ needs while simultaneously reducing their risk of exposure to weather shocks. These programmes entail the payment of a wage (in cash, food or voucher), by the state, in return for the provision of labour to produce assets or services and improve employability. Participating in such social protection schemes can help increase food security and agricultural outcomes during climate shocks. For instance, when exposed to drought, beneficiaries’ risk of experiencing crop losses decreased if they participated in Ethiopia’s Productive Safety Net Programme (PSNP) (Figure 3). Although the benefits of the programme may partially stem from the access to new programme-led community assets (such as new infrastructure which benefits both direct beneficiaries and their community peers), the empirical findings suggest that at least a part of the positive impact is linked to additional income, knowledge, or new transferable skills acquired by the programme’s participants. Moreover, the fact that the adaptive gains from the programme disappear by considering other non-weather-related shocks (i.e. fire, pests, insects, wild animals or security problems) showcases PSNP’s specific relevance with respect to drought-related shocks (Scognamillo, Ignaciuk and Mastrorillo, 2022).

**FIGURE 3 PSNP BENEFICIARIES IN ETHIOPIA ARE LESS LIKELY TO EXPERIENCE FOOD INSECURITY AND CROP LOSSES IN THE CONTEXT OF DROUGHT**



Source: Scognamillo, A., Ignaciuk, A. & Mastrorillo, M. 2022. *Reducing vulnerability to weather shock through social protection – Evidence from the implementation of Productive Safety Net Programme (PSNP) in Ethiopia*. FAO Agricultural Development Economics Working Paper No. 22–02. Rome, FAO.

## Promoting climate-smart agriculture with adaptive social protection interventions

CSA practices and technologies, designed to reduce agricultural systems' vulnerability to climate hazards, are an important way to enhance smallholders' adaptive capacity. Yet, despite their potential to reduce exposure to climate risks, the adoption of sustainable management practices in poor and vulnerable contexts remains constrained by a lack of resources, limited lagged financial returns and low incentives to work at the extensive and intensive margin. While most CSA practices do not require significant capital outlays, farmers may still incur non-trivial direct costs to invest in and acquire the necessary information on these new agricultural technologies. More importantly, their adoption entails a range of potential opportunity costs associated with reallocations of land, labour and capital, which may negatively affect households' income, food security and short-term agricultural productivity (see Table 1).

**TABLE 1 CLIMATE-SMART AGRICULTURE PRACTICES BY RESOURCE INTENSITY AND RISK LEVEL PROFILES**

CSA PRACTICE CATEGORY	CSA PRACTICE	CSA PRACTICE PROFILE			
		LAND INTENSITY	LABOUR INTENSITY	CAPITAL INTENSITY	RISK LEVEL
<b>Residue addition</b>	Organic fertilizer	Low	High	Low	Low
<b>Non-woody plant cultivation</b>	Legume intercropping	Low	High	Low	Low
<b>Physical infrastructure</b>	Soil and water conservation	High	High	High	High
<b>Mixed measures</b>	Livestock accumulation	High	High	High	Low

Source: Authors' elaboration.

### Receiving social protection can indirectly affect beneficiaries' risk profiles and ease their adoption of CSA practices

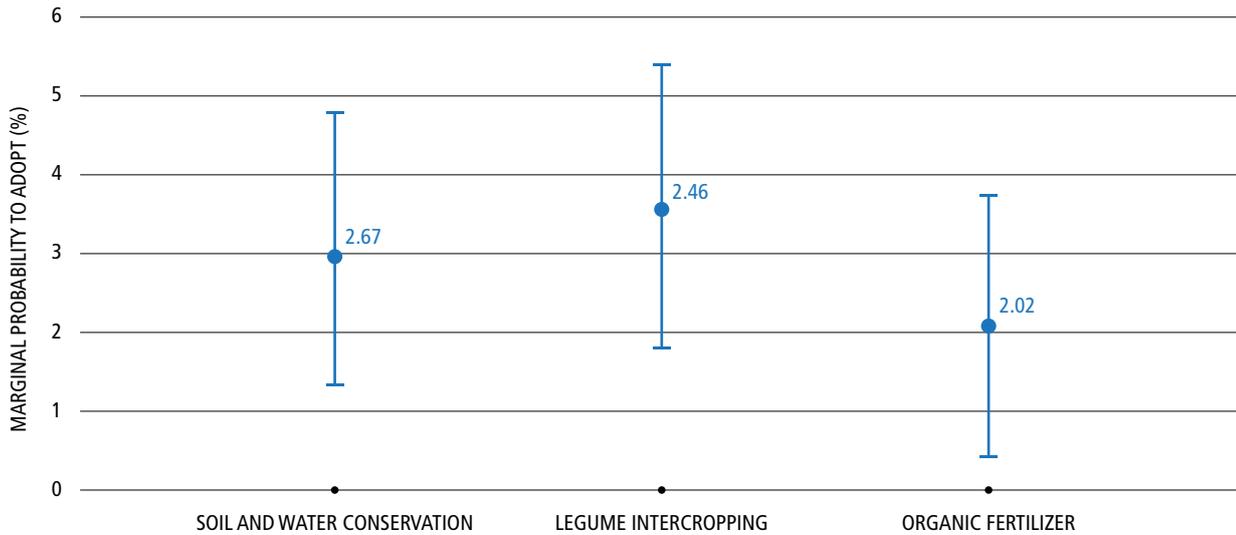
Farmers operating in the context of multiple market failures tend to prioritize short-term food self-sufficiency over longer-term investments that would improve farm productivity and climate resilience. Social protection may be leveraged to avoid the "myopic" behaviour and achieve productive outcomes. In fact, receiving social transfers may indirectly affect beneficiaries' likelihood to adopt CSA practices by altering their risk preferences and willingness to invest in novel, uncertain practices, as the transfer may act as an insurance against food insecurity (Ignaciuk *et al.* [forthcoming]).

### Social protection relaxes the constraints on adopting climate-smart agriculture practices

Social protection may also enhance the adoption of CSA practices by easing the budget constraints that usually act as barriers to agricultural investment and the adoption of new practices. Moreover, the transfers may ease the labour shortages' burden and enable vulnerable households to retain labour in their own fields, which is essential for the adoption of labour-intensive practices. As an example, households participating in Malawi's Social Action Fund (MASAF)<sup>1</sup> programme are more likely to build soil water conservation structures, implement maize and legume intercropping, and use compost and organic manure fertilizers (Figure 4). Furthermore, MASAF beneficiaries are more likely to sustain these investments over multiple years (Ignaciuk, Scognamillo and Sitko, 2021).

1 MASAF is one of the world's largest public work programmes for its coverage.

**FIGURE 4** MASAF PARTICIPATION INCREASES THE MALAWIAN BENEFICIARIES' LIKELIHOOD OF ADOPTING SOIL AND WATER CONSERVATION STRUCTURE, LEGUME INTERCROPPING AND ORGANIC FERTILIZER

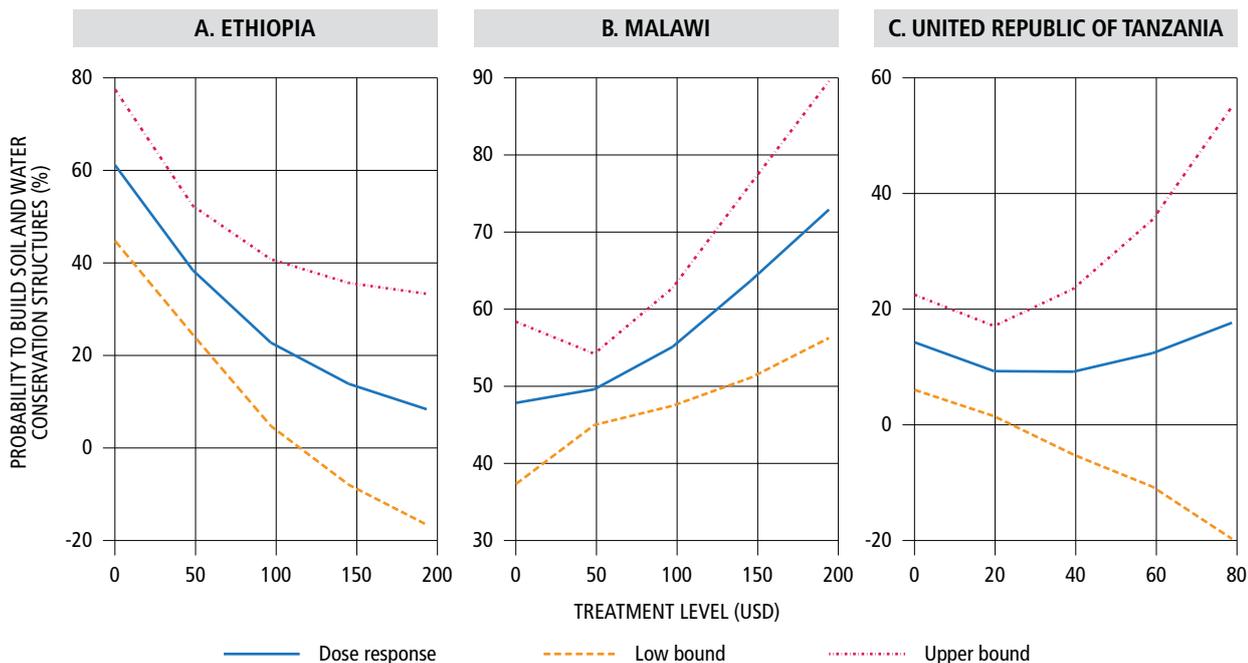


Source: Ignaciuk, A., Scognamillo, A. & Sitko, N.J. 2021. *Leveraging social protection to advance climate-smart agriculture: evidence from Malawi*. FAO Agricultural Development Economics Working Paper No. 21-04. Rome, FAO.

**The impacts of social protection on CSA adoption depend on multiple mediating factors**

The empirical relationship between receiving social protection and adopting CSA practices is ultimately shaped by the expected marginal utility of investing in adaptive management strategies that, in turn, depends on the households' endowments (budget constraints), their risk profiles (risk constraints), their off-farm investment opportunities, and the labour-intensity of the CSA investment (opportunity costs). Moreover, transfer and context-specific interplaying factors (such as transfer size and drought risk exposure) should be also considered to develop tailored interventions to improve beneficiaries' livelihoods and food security and, at the same time, to increase their capacity to prepare for, cope with and adapt to climate hazards (Ignaciuk *et al.*, 2022). In Ethiopia and the United Republic of Tanzania, beneficiaries are less likely to build SWC structures as the transfer values increase because they have more opportunities to adapt through other off-farm investments. Conversely, in Malawi, food aid beneficiaries' likelihood to build SWC structures increases linearly with the transfer size (Figure 5).

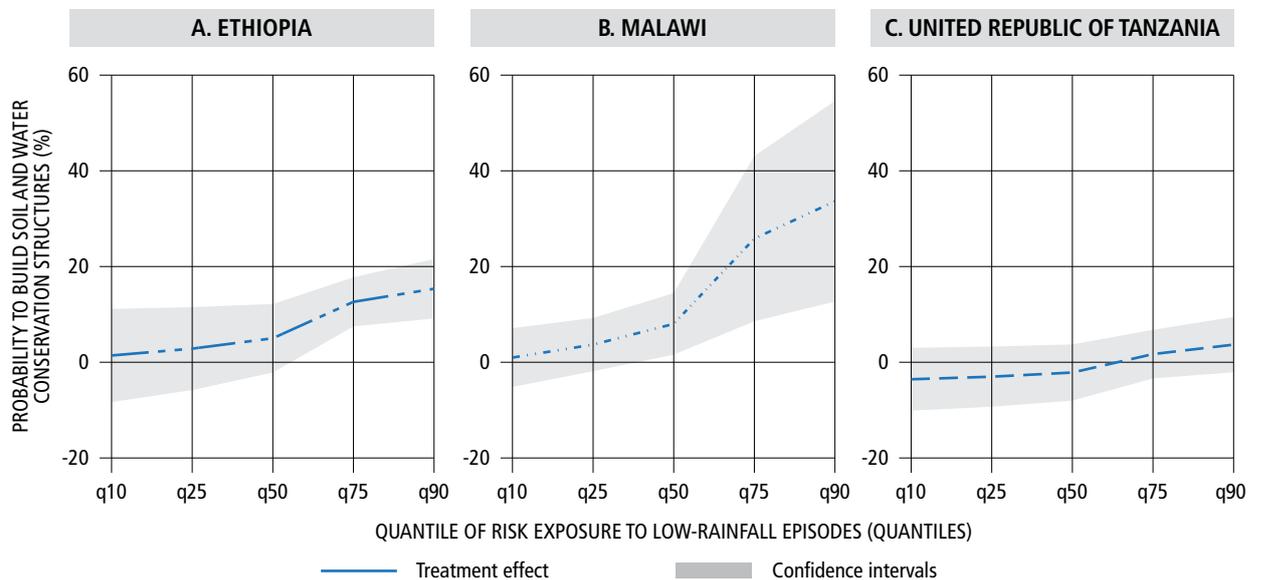
**FIGURE 5** THE IMPACT OF FOOD TRANSFERS ON THE CSA PRACTICES ADOPTION DEPENDS ON TRANSFER SIZE



Source: Ignaciuk, A., Malevolti, G., Scognamillo, A. & Sitko, N.J. 2022. *Can food aid relax farmers' constraints to adopting climate-adaptive agricultural practices? Evidence from East Africa*. FAO Agricultural Development Economics Working Paper No. 22-01. Rome, FAO.

Moreover, in Ethiopia and Malawi, the association between food aid and the probability of adopting SWC, increases in regions more exposed to the risk of droughts. In the United Republic of Tanzania, no statistically significant differences have been found, i.e. farmers facing a higher risk of drought are not more likely to adopt SWC (Figure 6).

**FIGURE 6 THE IMPACT OF FOOD AID ON SOIL WATER CONSERVATION STRUCTURES DEPENDS ON DROUGHT RISK EXPOSURE**



Source: Ignaciuk, A., Malevolti, G., Scognamiglio, A. & Sitko, N.J. 2022. *Can food aid relax farmers' constraints to adopting climate-adaptive agricultural practices? Evidence from East Africa*. FAO Agricultural Development Economics Working Paper No. 22–01. Rome, FAO.

## Repurpose, improve and integrate interventions to maximize the impacts on livelihood outcomes and build climate resilience

In order to optimally leverage social protection's multi-faceted effects, promote CSA investments and upscale farmers' adaptive capacities, policymakers must improve the targeting criteria and the integration with climate-adaptive interventions and services provision and ultimately the coordination and coherence between agricultural support initiatives and social protection systems.

### Develop better targeted, better implemented social protection interventions

The targeting of areas and beneficiaries should be linked to the context-specific risk exposures, based on a wider set of seasonal information (including socio-demographic data, satellite and remote sensing sources), and grounded on a beneficiary participatory approach to leverage the scientific and community knowledge for the identification of specific conditions of vulnerability.

Understanding how and when to provide the support is crucial. In contexts characterized by high vulnerability, anticipatory actions based on functioning early warning systems may magnify the impact of the social protection measures. Moreover, the type, the recurrence and the size of the transfer should be based, as much as possible, on locally determined and households' specific features to maximize the impact of the intervention on the beneficiaries' livelihood outcomes.

### Bundle social protection programmes with climate adaptive interventions and services provision

The effect of social protection programmes on farmers' adoption of CSA practices is likely to improve if governments adopt more integrated approaches to break down the existing silos between humanitarian interventions and initiatives that aim to build climate resilience. For instance, policymakers could integrate existing social protection programmes with contextually relevant agricultural extension advice on CSA practices and seasonal forecast information to promote adoption and provide support throughout the adoption. Additionally, public work programmes could be revisited to focus on skills that are transferable to farmers, such as the construction of erosion control systems or agroforestry plantations. Policymakers could also consider varying social protection payments over time, conditional on farmers' adoption of context-specific-optimal CSA practices and the sustained implementation of adaptive management strategies.

## Increase the coherence and integrate social policy interventions with countries' strategies, policies and plans

Existing public support policies for agriculture are strongly influencing farmers' investment decisions. Decision-makers should critically assess and repurpose current support measures to ensure they do not hinder effective adaptation investments. Ideally, they should incentivize farmers and other private sector actors to invest in feasible and efficient sustainable management practices and technologies. Effective social programmes should be aligned with the national development plans, and interventions shall be prioritized according to the national – agriculture policy, poverty reduction, food security and nutrition, natural resource management, resilience and climate change- strategies, policies and plans.

**TABLE 2** ROADMAP TO IMPLEMENT OPTIMAL ADAPTIVE SOCIAL PROTECTION PROGRAMMES

DIMENSIONS	OBJECTIVES	POLICY RECOMMENDATIONS
<b>Livelihood</b>	Develop targeted social protection interventions	Prioritize interventions and areas based on locally determined risks, widen the information set for targeting purposes and implement a beneficiary participatory approach.
		Decide on the time, type, recurrence and size of the transfer.
<b>Adaptive capacity</b>	Bundle social protection programmes with climate-adaptive interventions and services provision	Identify optimal adaptive practice according to the exposure to climate risk, agronomic characteristics and market access.
		Integrate existing social protection programmes with agricultural extensions advice and seasonal forecast information.
		Develop PWP focusing on transferable skills to farmers and increase their adaptive capacity.
		Condition the social protection transfers on the adoption of adaptive practices.
<b>Resilience</b>	Integrate, coordinate and increase the coherence	Integrate social and adaptive policies with countries' transformation and development strategies, policies and plans.

Source: Authors' elaboration.



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