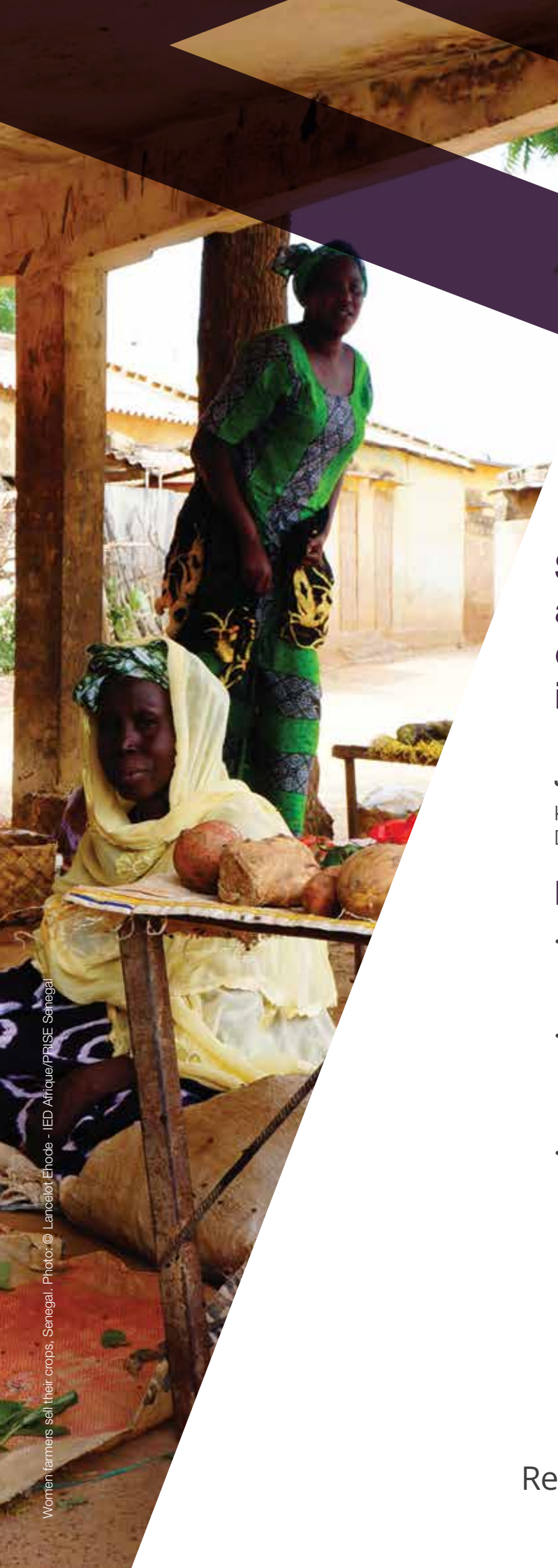

Women farmers sell their crops, Senegal. Photo: © Lancelot Ehode - IED Afrique/PRISE Senegal

Supporting private adaptation to climate change in semi-arid lands in developing countries

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Key messages:

- Supporting private adaptation and climate-resilient development in semi-arid lands is fundamental to achieving the 2030 Agenda for Sustainable Development pledge to 'leave no one behind'.
- Developing country governments, supported by development partners, have a key role to play in enabling sustainable and inclusive private adaptation in semi-arid lands and in unlocking the potential of the private sector for adaptation.
- Public policies, as well as climate and business development funds, need to account for the fact that the private sector in semi-arid lands is often informal, that people are mobile, and that they often move in and out of different economic activities.

PRISE
Pathways to resilience in semi-arid economies

Research for climate–resilient futures

Semi-arid lands (SALs) in developing countries have been characterised as climate change 'hotspots'. Globally, around one billion people live in SALs, including some of the poorest and least food-secure people in the world. Article 7 of the Paris Agreement sets out the goal of taking into account the urgent and immediate needs of those that are particularly vulnerable to climate change. To implement the Paris Agreement, and to achieve the pledge within the 2030 Agenda for Sustainable Development that 'no one will be left behind', it is vital that national governments in semi-arid regions, supported by their development partners, rapidly upscale support for climate-resilient development and adaptation in these highly vulnerable areas.

Introduction

Semi-arid lands (SALs) are spread across the globe, occurring in both hot and cold climates and encompassing a variety of environments and human development contexts. SALs are dry zones that already experience often scarce and unreliable rainfall that fluctuates on daily and annual timescales. Global warming trends are expected to be particularly intense in many SALs (IPCC, 2014) and droughts and floods are already becoming more severe there. In developing countries, SAL populations rely heavily on a mixture of rain-fed agriculture and pastoralism, making them particularly exposed to climate variability.

Most climate change adaptation decisions, in SALs and elsewhere, are made by 'private actors' – which include households, producers and businesses – seeking to maximise their own welfare. These groups take action to try to manage their exposure to risks and to maximise opportunities when they arise. But they cannot adapt effectively to climate change alone: they require supportive enabling conditions and policies that equip them with the necessary incentives, resources, knowledge and skills.

In SALs in developing countries, private actors often face major barriers to avoiding, absorbing and adapting to the impacts of climate extremes. SALs are often remote and encompass some of the most politically and economically marginalised areas. Formal institutions and legal frameworks in SALs typically are underdeveloped. These regions face particularly limited access to markets, infrastructure and services. A fragile natural resource base, alongside weak regulation, means

Box 1. Research background

This policy briefing is the product of a collective effort based on the results of five years of robust, evidence-based and stakeholder-driven research carried out under the consortium for Pathways to Resilience in Semi-Arid Economies (PRISE) in Senegal, Burkina Faso, Kenya, Tanzania, Ethiopia, Pakistan, Tajikistan and Kyrgyzstan. The empirical basis for this briefing is provided by research from across PRISE, produced by the Grantham Research Institute on Climate Change and the Environment at the London School of Economics and Political Science, Innovation Environnement Développement (IED) Afrique, Kenya Markets Trust (KMT), Mountain Societies Research Institute (MSRI), Overseas Development Institute (ODI), Sustainable Development Policy Institute (SDPI), Regional Environment Centre for Central Asia (CAREC) and the University of Ouagadougou (UO).

We would like to particularly acknowledge the following individuals from PRISE, and from PRISE's CARIAA research consortium partner Adaptation at Scale in Semi-Arid Regions (ASSAR), who shared invaluable additional insights from their research through key informant interviews:

From SDPI: Abid Suleri, Ahmed Khaver, Ayesha Qaisrani, Imran Khalid and Samavia Batool; from IED Afrique: Assane Bèye, Cheikh Wade and Mamadou Diop; from ODI: Catherine Simonet, Claire Bedelian, Eva Ludi, Elizabeth Carabine and Peter Newborne; from the Grantham Research Institute: Abbie Clare and Shaikh Eskander; from the Indian Institute for Human Settlements: Chandni Singh; from the University of Cape Town: Dian Spear; and from the University of East Anglia: Mark Tebboth.

land degradation and resource conflict also often limit the ability of populations to manage climate risk (Jobbins et al., 2016).

This confluence of climate and non-climate risks combined with broader socioeconomic inequalities means climate hazards affect the populations of SALs disproportionately, threatening the central commitment underpinning the Sustainable Development Goals (SDGs) to 'leave no one behind'. The expansion of semi-arid regions and their populations is exacerbating this situation. Many countries in the Sahel, for example, have projected population growth rates of over 3% a year. SALs have generally faced longstanding underinvestment and have been given limited attention in national and international climate policies. Despite fulfilling many of the criteria for international climate finance (high exposure and low adaptive capacity), climate adaptation funds have also been underutilised in SALs.

Parties to the Paris Agreement are currently reviewing their nationally determined contributions, including on adaptation, through the Talanoa Dialogue consultation process. This policy briefing highlights the important role for national governments, in collaboration with their development partners, to support adaptation and climate-resilient development among private actors in the SALs of developing countries. It also highlights opportunities for public adaptation investments and the development of a supportive institutional enabling environment to upscale adaptation and climate-resilient development, by unlocking private sources of investment, such as from formal and informal businesses and returning migrants. To guide national governments and their development partners in the delivery of enabling conditions for private adaptation and climate-resilient development in SALs, the briefing distils broad lessons from PRISE about the kinds of policies, institutions and other public investments that can support adaptation and climate-resilient development across a broad range of private actors.

Where are we? Climate risk and responses in semi-arid lands

Experience of climate risk

The economies of SALs in developing countries depend heavily on agriculture, livestock and agricultural processing, which, through extreme temperatures, high rainfall variability and fluctuations in natural capital (such as water and grazing resources), are highly exposed to the effects of climate change. People in SALs are aware of – and experience the impacts of – climate risk in relation to their activities and many feel increasingly exposed to climate impacts. Households, producers and micro, small and medium enterprises (MSMEs) surveyed by PRISE described experiencing direct and indirect impacts of flooding and drought, including damage to infrastructure and business assets and disruption to production processes and supply chains. Revealing a 'double vulnerability', PRISE research has also highlighted that impacts of climate stress may occur simultaneously at the business and household level and be interconnected.

Populations are not exposed to climate risk equally. For example, women may be disproportionately affected as they are often confined to the most marginal agricultural activities in the informal sector, such as small-scale agriculture, processing and trade in cereal, milk and poultry products, which are especially exposed to the effects of climate change (Batool and Saeed, 2017; Newborne and Gansaonré, 2017).

Responses to climate risk

PRISE research, across all countries studied, has identified households, producers and businesses taking action to manage climate risk and build resilience to climate shocks,

Box 2. Mobility as an adaptation response

The temporary or permanent mobility of humans and livestock represents an important resilience strategy in SALs. Mobile pastoralist systems, for example, are frequently more productive and resilient than sedentary ranch-based systems. And migrant transfers and remittances sent back to families are often key to poverty reduction, as well as a significant source of investment into SALs.

However, migration may increase as well as reduce vulnerability (Newborne and Gansaonré, 2017). It can be hard for migrants to transition between, or even within, economic sectors. Migrants may encounter tensions with host communities. Further, poorer migrants may be left especially vulnerable to exploitation. On arrival in cities, for example, it is common for low-skilled migrants from SALs to end up living in slums that lack access to basic water and sanitation and that often experience hazards such as flooding. Work opportunities for unskilled migrants may be limited to very low-paid, high-risk activities.

National governments and other development actors therefore need to give particular consideration to supporting mobility as an adaptation and resilience-building tool and to reducing the vulnerability of migrants (Wade et al., 2017).

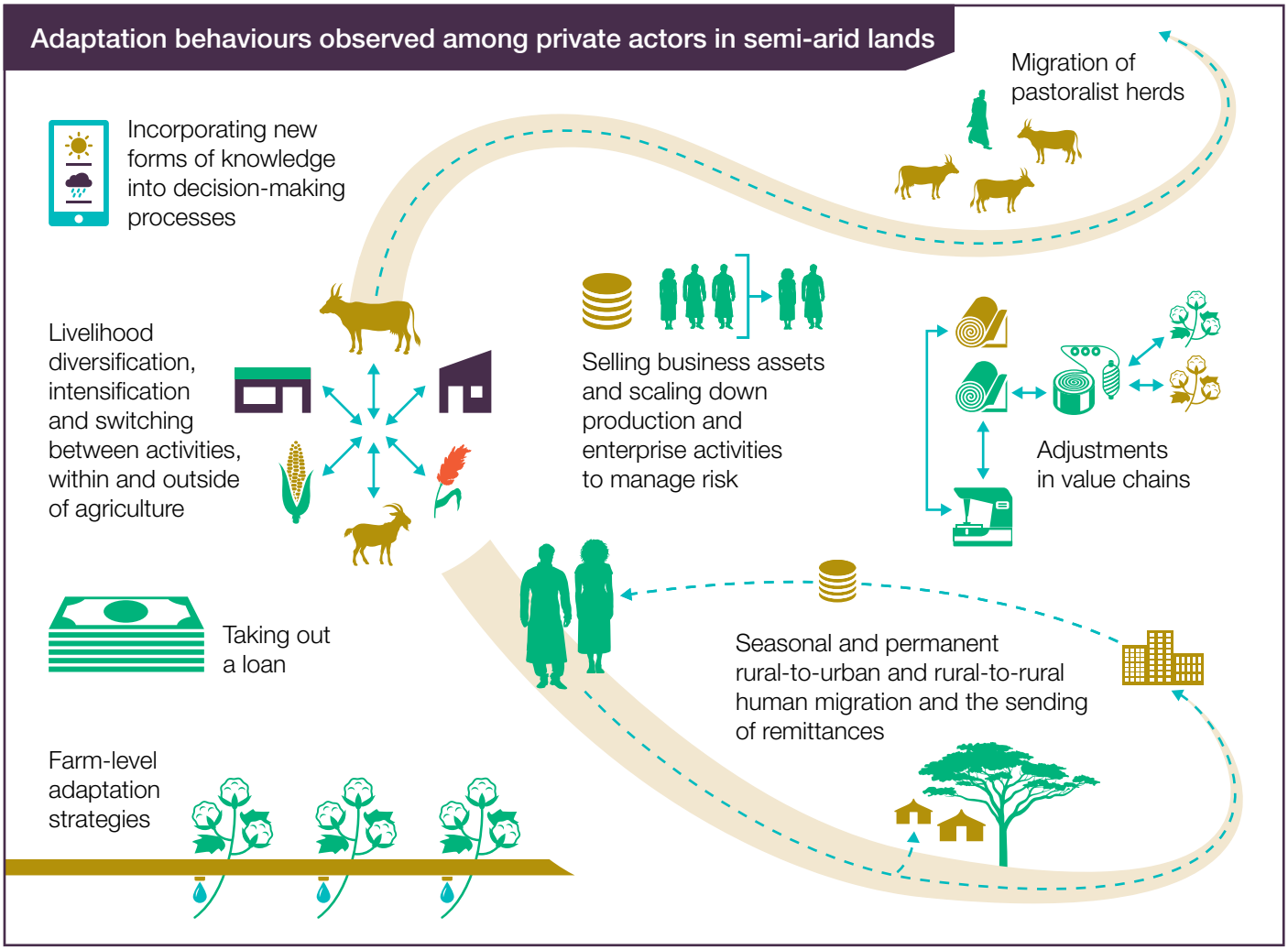

Figure 1

highlighting longstanding ways of responding to the dynamic environments in which they live and work (Figure 1). Flexibility, heterogeneity and mobility are inherent characteristics of many of these strategies (Bedelian and Ogutu, 2017; Carabine et al., 2018; Qaisrani et al., 2018; Wade et al., 2017). This can be seen, for example, in livelihood diversification, the heterogeneity of SAL production systems and the prevalence of mixed farming systems. It can also be seen in private actors migrating (Box 2, p3) and switching between activities. For example, in Senegal producers sometimes switch to trading at times when their production is poor and employ staff when it is better (Carabine et al., 2018).

To avoid breaking down traditional coping strategies and creating dependencies, it is fundamental that action to support private adaptation in SALs identifies and strengthens the inherent and extensive existing adaptive capacities of SAL populations. However, existing adaptation behaviours are not *all* necessarily sustainable or sufficient to buffer against current or future shocks and stresses. Indeed, some strategies may reduce future adaptive capacity, or result in private actors being drawn into risky activities that increase their vulnerability. Strategies such as the distress sale of assets (often at reduced prices) and reducing production to limit the risk of loss and damage, for example, involve enterprise activities being scaled back. These strategies may help in the short term but can undermine longer-term resilience given reduced sales, profits and land under ownership (Crick et al., 2018).

Current responses also do not necessarily take *future* climate risk into account, for example in the selection of new crops and production methods. Some responses may also transfer vulnerability, often impacting the most vulnerable most severely. For example, climate risk is often unevenly concentrated within value chains (Carabine et al., 2018): larger, formal, upstream processing businesses may be able to buffer against fluctuations in the availability and quality of domestic raw materials through switching to imports, leaving smaller-scale producers (e.g. farmers) to manage the impacts of reduced productivity alone (Batool and Saeed, 2017).

Barriers to adaptation

In SALs, private actors' ability to manage climate risk effectively is heavily constrained by multiple financial, technological, infrastructural, informational, social, institutional and regulatory barriers that make it harder to plan and implement adaptation or that restrict options (Davies, 2018; Jobbins et al., 2016). Lack of funds and access to capital is a particular barrier (Crick et al., 2018). Currently, informal enterprises and those with more restricted access to formal land ownership, including women, mobile pastoralists and other producers who farm land that is either communally owned or allocated through informal tenure, often struggle to access credit through formal channels (Carabine et al., 2018). Even among formal enterprises, climate and business development finance opportunities are often limited. While microenterprises may be able to access finance through microfinance initiatives, and larger enterprises find it easier to access bank loans, these credit sources are often not suited to the more established, yet still vulnerable, enterprises that fall outside of micro-industry and within the larger 'small' and 'medium' enterprise classifications. This often creates a 'missing middle' when it comes to accessing finance for businesses.

Lack of access to general government business support and specific adaptation assistance also decreases the probability of sustainable adaptation action (Crick et al., 2018). Lack of information about adaptation options, as well as lack of data developed at the right temporal and spatial scales and climate information services targeted to the specific needs of private actors are also critical barriers. Adaptive capacity is also often restricted through limited access to markets and technologies, including climate-smart technologies and inputs (those that are better suited to a changing climate). There are also institutional barriers stemming, for example, from a lack of coordination between sectors and policies (Davies, 2018; Qaisrani et al., 2018).

The ability of private actors to adapt to climate shocks is also shaped by wider social vulnerabilities and structural inequalities that constrain opportunities and freedoms. Multidimensional inequalities around gender, age, political identity, geographical location, economic activities, income and assets can all limit adaptive capacity (Davies, 2018; Rao et al., 2017). Women typically face additional barriers, including more limited access to land, finance, educational opportunities and other assets (Batool and Saeed, 2017). Those that are hardest hit are often least able to absorb and recover from shocks, leaving the poorest and most vulnerable even less able to cope in the future. Unmanaged climate impacts therefore have strong potential to perpetuate and worsen existing socioeconomic inequalities among private actors in SALs, representing a direct threat to achieving SDG 10, which calls for a reduction in inequality.

Where do we want to go? Adaptation and inclusive climate-resilient development in semi-arid lands

Producers in SALs are linked to large, and sometimes highly competitive, value chains spread across formal and informal sectors that incorporate a range of different sized businesses within and outside of SALs (Carabine et al., 2018). In Pakistan, for example, where 10 million farming families are estimated to depend on the textile industry, the cotton value chain links producers of raw cotton with seed, fertilizer, pesticide, credit and machinery input providers and with upstream production, processing and trade enterprises such as ginning and spinning, and manufacturing enterprises such as textile mills (Batool and Saeed, 2017).

SALs have considerable additional untapped economic potential, but currently this is often not well recognised or unlocked, mainly because: (1) economic actors operate largely at the level of producers and micro and small enterprises in the informal sector; (2) women remain on the fringes of the economy; and (3) businesses, households and producers are not clearly defined, static units. Instead, SALs are sites of dynamic social, as well as environmental, change. Private actors may move in and out of different market activities and adjust their livelihood strategies in response to stressors and the marked wet and dry seasons typical of SALs. Private actors in rural SALs also often migrate seasonally to urban and other rural areas.

To support the achievement of the SDGs, the vision for SALs should be to maximise their economic opportunities and to achieve a future where these areas experience sustainable economic development in a way that is inclusive, equitable and resilient to climate change. Under such a vision, SALs become regions that are politically, economically and socially integrated and contribute to national and regional economic growth and national development agendas. This includes recognising the diversity of private actors that reside in SALs and supporting and maximising the most appropriate sustainable climate change adaptation options for all people and businesses, and along value chains. In particular, inclusive,

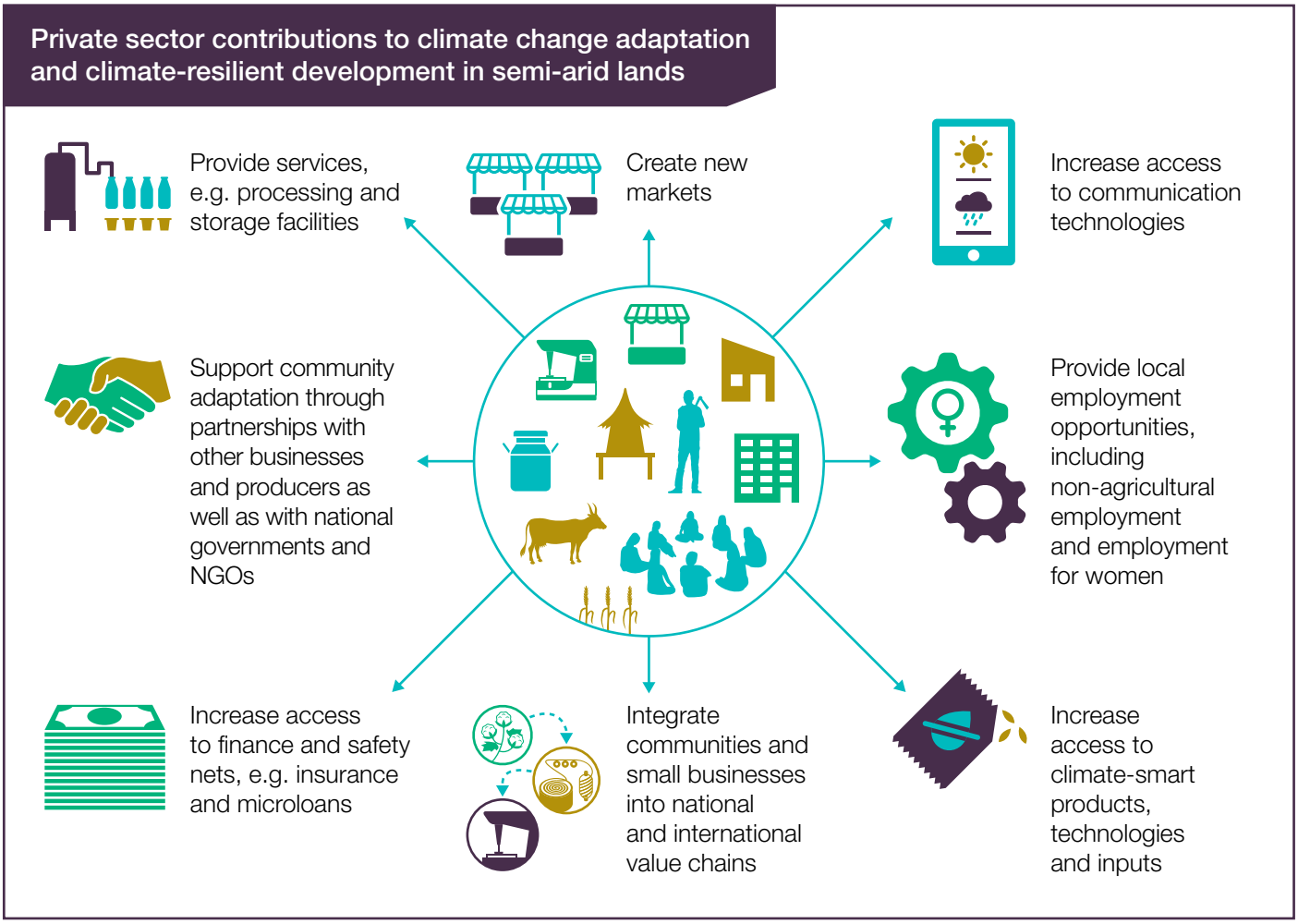

Figure 2

climate-resilient economic growth is achieved by recognising and unlocking the potential for women and other marginalised groups to be agents of change.

Unlocking private adaptation and climate-resilient development through the private sector

These ambitions are not unrealistic. There is a key role for governments to support sustainable adaptation among private actors and to remove barriers to enhance climate-resilient growth among this large and diverse private sector. And, given the risks that can also arise from exposing businesses to new market forces, governments have to work with the private sector to ensure all members of SAL societies have the ability to manage climate risk, engage in sustainable growth and adaptation and avoid transferring vulnerabilities. However, there is also huge potential to build adaptive capacity and more climate-resilient supply chains, and to unlock additional sustainable and climate-resilient development in SALs through the private sector. Figure 2 illustrates some of the many ways in which private sector actors, from formal and informal businesses, can make wide-ranging contributions to resilience.

Value chain and market analyses are tools that governments, their development partners and others can use to identify risks, weaknesses and opportunities within and along SAL value chains and to identify and broker linkages between private actors that help mitigate these risks and maximise opportunities for the private sector to contribute to resilience in SALs (Carabine et al., 2018).

Value chain analysis may help facilitate the development of business cases for risk sharing and investment across value chains, including those that incorporate women and other vulnerable groups. In the cotton value chain in Pakistan, for example, there are cases of companies providing producers associated with their value chains with good quality inputs, such as fertilisers and pesticides. And creating a closer link between producers and processors could support the development of new products based on more climate-resilient crops: for example, the Kenya Cereal Enhancement Programme has linked East African Breweries Limited (EABL) with smallholder cereal producers in Kenya's Eastern region to enhance the value chain of sorghum and millet, by providing farmers with access to direct markets for their produce and by supporting EABL

to exploit a business opportunity to develop a new low-cost beer.

Women in particular need to be better supported and incorporated into the economy to fulfil their potential to become key agents of change (Batool and Saeed, 2017). PRISE research suggests that women entrepreneurs may be more likely to engage in sustainable adaptation than men (Crick et al., 2018), and women often more efficiently allocate economic returns to the most critical household assets, including health, education and food security, which themselves shape resilience in SALs.

The building blocks of private adaptation and climate-resilient development

The extent to which private actors are able to meet the challenges and opportunities of climate change will depend in part on the extent to which local and national governments provide the right enabling conditions. To do this, national and local governments, supported by development partners, need to pursue a holistic approach to supporting private adaptation. This requires that they support climate-specific adaptive capacity (including through provision of climate information and climate-smart technologies and inputs), while addressing the broader structural and development deficits that shape existing underlying vulnerabilities.

Adaptation and development can be mutually supporting if carried out in conjunction. Meeting basic human development needs and addressing broader determinants of vulnerability, such as poverty, food security, health, access to education and finance, is fundamental to enabling private actors to make the adjustments needed to adapt to climate change and manage risk. The need to address both general social and economic constraints and uncertainties alongside specific climate change adaptation needs is especially important since adaptation is rarely undertaken in response to climate change alone. Instead, private actors respond to a portfolio of risks as they perceive them, set within structures that limit their ability to respond. This is as true for businesses and producers as much as for households.

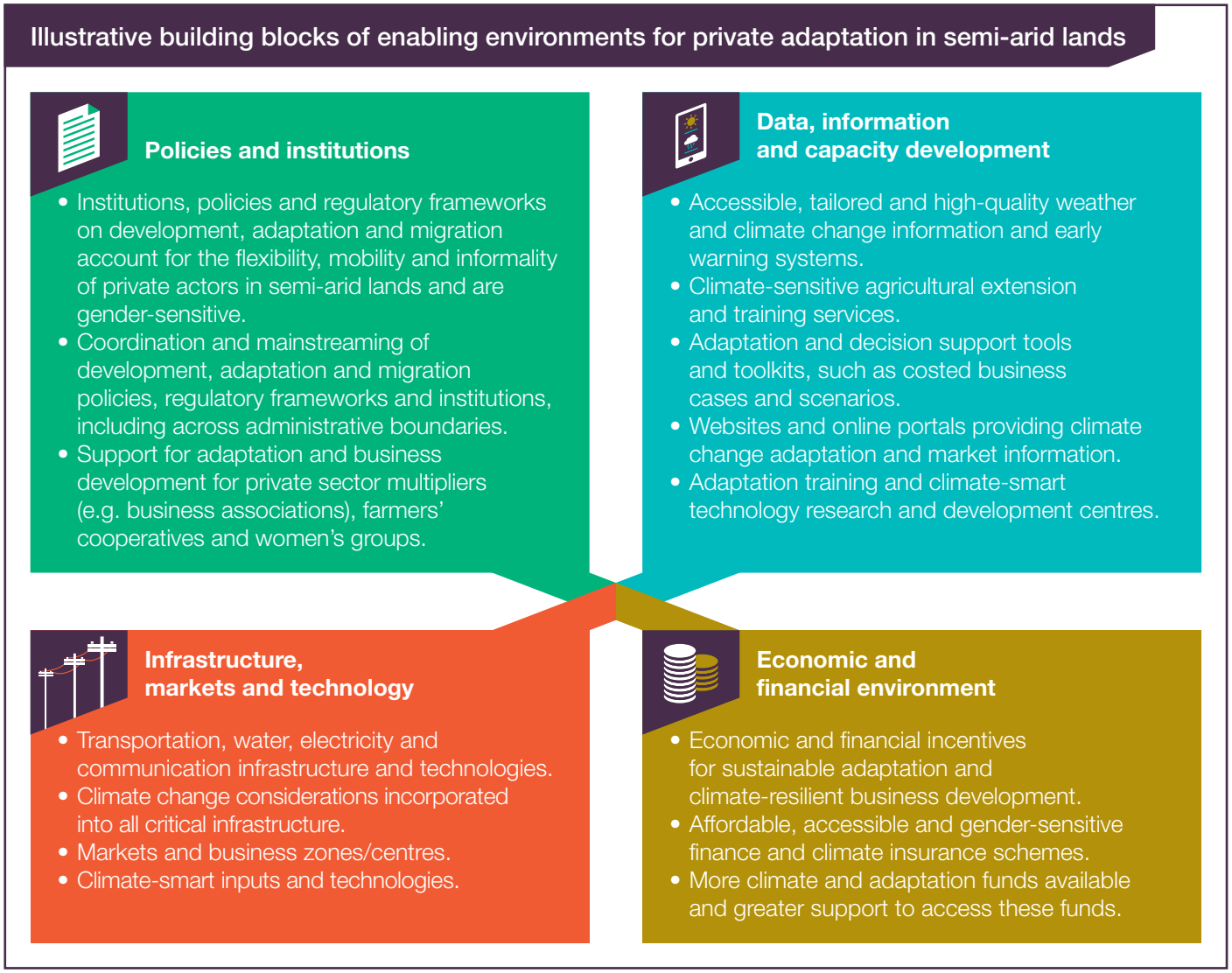

Figure 3

Many of the constraints that limit business adaptive capacity also limit their general growth and development. Similarly, improving general enabling environments for business is fundamental to opening up SALs to private investment in resilience, including from their existing populations.

These lessons are especially important in SALs, where people are often acutely vulnerable, since the ability to adapt may be disproportionately influenced by the least developed elements of enabling environments: people are as vulnerable as the 'weakest link' in the mix of conditions that shape their capacity to cope with climate risk. This means that underinvestment in generic as well as climate-specific determinants of adaptive capacity could lead to fundamental gaps that could disproportionately limit people's ability to adapt, despite additional public investment to support adaptation.

PRISE research finds that enabling environments for private adaptation and climate-resilient development require, at the very least, favourable conditions in relation to: policies and institutions; infrastructure and markets; data, information and capacity development; and the economic and financial environment. These four interlinked 'building blocks' are only broad categories of enabling conditions, but they constitute key factors that enable or constrain adaptation. Figure 3 (p7) highlights some of the enabling conditions that can support private adaptation within each of these categories. Many of these enabling conditions are not specific to SALs: they represent conditions required to support private adaptation more broadly. Yet they all deserve explicit consideration in public efforts to support private adaptation and climate-resilient development in SALs, where many of these elements are currently missing.

The need for flexible and responsive enabling environments

The enabling conditions described in Figure 3 are not enough in themselves. They need to be targeted to be inclusive and tailored towards the specific needs of the wide range of private actors, including women. Fundamental to delivering enabling environments that remain flexible and responsive to the specific, diverse and changing nature of actors and their activities is a broader understanding of the private sector in SALs. This requires enabling conditions to be designed in a way that reflects the flexibility, heterogeneity, informality and mobility that are inherent to SAL socioeconomic systems and to the way in which private actors manage variability, buffer shocks and capitalise on opportunities.

Informality in the private sector, for example, serves as a strategy to support the flexibility and heterogeneity of livelihood activities and to manage risks and variable resources in SALs (Carabine et al., 2018). Yet currently there are often structural disadvantages to operating informally, including restricted access to formal finance mechanisms, new market opportunities and public-sector services. There are also often multiple formal and informal production systems that exist in parallel and intersect. In East Africa's SALs, for example, multiple systems of meat production co-exist. Some producers operate in more informal chains, often migrating more extensively as a response to environmental and climatic changes. Others operate within more formal chains, are often more sedentary and may produce higher quality meat for more premium markets. More informal systems, which are present in SALs across multiple value chains, often offer routes to markets for more marginal groups, including poorer pastoralists, producers and women (ibid.). Accounting for this diversity at a policy level and within the design of enabling conditions is therefore fundamental to inclusive adaptation and to avoid further marginalising the groups that are often the most vulnerable.

Efforts to build supportive and inclusive enabling and policy environments for a wider range of SAL actors will also require designing products and services that target collectives such as women's groups and farmers' cooperatives. At the community level, women's groups, producer cooperatives, marketing groups, table banking groups (that provide informal saving and lending networks) and other formal and informal support networks are currently tools that support some of the most marginalised actors to overcome a range of barriers to adaptation and business growth and development, such as access to markets, land, new technologies and finance. These groups may also undertake a range of other activities with potential to increase the resilience in SALs, such as the group purchase of inputs (e.g. drought-resilient seeds), initiating cooperatives and marketing groups to support the participation of a wider range of producers in formal markets, and other common pool resource management initiatives, such as reforestation/afforestation, and greenhouse farming. Issues of power and representation can arise within these groups, limiting access and benefits for the most marginalised. However, alongside careful monitoring and evaluation to ensure action remains inclusive, opportunities to support these groups within broader efforts to build supportive enabling and policy environments for a wider range of SAL actors should also be pursued.

The importance of collaboration and coordination

Globally, climate change is too often seen as the sole responsibility of environment ministries. Yet the factors required to enable adaptation in SALs are cross-cutting, spilling over the traditional remits and capabilities of any single sector, institution or actor and thus enabling conditions to support private adaptation will require significant coordination across sectors and scales.

In addition, climate change impacts transcend administrative boundaries and so collaboration and coordination between local governments, including between urban and rural areas, is critical (Lo et al., 2018; Qaisrani et al., 2018). This is especially the case given the way in which urban and rural areas are increasingly integrated through flows of people, commodities and information and through multiple complex interlinkages across various scales (e.g. ecosystem services, employment opportunities and migrant remittances). SALs therefore need to be understood and planned through a systems perspective with planning integrated across rural and urban scales.

Multi-stakeholder partnerships (MSPs), which often bring together actors from government, the private sector and civil society, represent a potential mechanism for coordinating action at multiple scales, addressing existing fragmentation in adaptation action, and developing more integrated approaches to enabling private adaptation. MSPs present their own challenges as a model for structuring adaptation action and require sensitive implementation if they are to avoid further marginalising and excluding certain groups. Nevertheless, MSPs present the opportunity to bring stakeholders together, for the strengths of each sector to be harnessed, for knowledge, expertise, and resources to be cross-leveraged and for regulatory, participatory, resource and learning gaps to be identified and addressed.

In particular, PRISE research suggests MSPs can support private sector adaptation; the interviewed MSMEs viewed partnerships as a key way to take advantage of market opportunities presented by climate change (e.g. accessing markets for climate-smart products), to enter new markets and thus to expand their business portfolio, to access new technologies, to gain new knowledge including about adaptation options, to participate in training workshops, to enhance their profits and to reduce the risk of investments.

How do we get there? A tailored approach to enabling private adaptation and climate-resilient development

Achieving inclusive, equitable and climate-resilient development in SALs will require a transformative or step-change approach from governments, with support from development partners. Indeed, small incremental changes to existing policies and approaches may not be sufficient and risk maintaining the status quo, where some groups and communities remain marginalised and where narratives of unproductivity and vulnerability still dominate. PRISE research reveals a need to challenge some of the orthodoxies surrounding SALs, including recognising the adaptive capacities of private actors, the sustainability and value of pastoralism and migration for adaptation (Carabine et al., 2018; Qaisrani et al., 2018; Wade et al., 2017), and also the need to provide the right enabling conditions to allow the private sector to contribute to adaptation.

Adaptation requirements are always locally contingent and SALs are very diverse, shaped by different geographies, cultures and development contexts, and they are changing rapidly. Prioritising action and identifying specific enabling conditions that effectively support equitable and inclusive adaptation and climate-resilient development will therefore always be context-specific and will require significant investment to ensure extensive and inclusive consultation with local and situated actors. PRISE nevertheless makes a number of recommendations to support private adaptation in SALs.

Recommendations

1. National governments and their development partners need to recognise the importance of supporting the adaptation of private actors in SALs for achieving climate-resilient development and the pledge within the 2030 Agenda for Sustainable Development to 'leave no one behind', and they must upscale support for private adaptation in these areas.

- **Developing country governments** need to raise the national profile of SALs, recognise the contribution of private actors within them to climate-resilient economic development and national development goals and prioritise supporting these actors when applying for international climate funds.

- **Developed countries and other development partners** should support SAL governments in this

aim through institutional capacity-building and increasing the share of their funding commitments directed towards enabling adaptation among private actors in SALs, in order to meet the objectives under the Paris Agreement to make climate finance flows consistent with demand and needs.

- **National representatives ('focal points') to the UNFCCC** need to view SALs, and the private actors within them, as key priority areas for investment and support.

2. National governments, supported by development partners, should provide enabling environments for private adaptation and climate-resilient development which, at the very least, provide favourable conditions across the following elements: policies and institutions; infrastructure and markets; data, information and capacity development; and the economic and financial environment.

- **National governments, supported by development partners**, should provide an enabling environment for private adaptation in SALs that supports climate-specific adaptive capacity (including through provision of climate information and climate-smart technologies and inputs), while addressing the broader structural and development deficits that shape underlying vulnerabilities, including health and access to education.

- *Policies and institutions:* **National governments** should explicitly target the needs of the broad range of private actors in SALs in their national adaptation plans (including formal and informal MSMEs, women's and farmers' groups and producers).

- *Infrastructure:* **National and local governments** must increase SAL private actors' access to transportation, water, electricity and communication infrastructure and incorporate climate change considerations into their design and implementation.

- *Data and information:* **National climate service providers** should pursue collaboration and dialogue with the diverse range of private actors in SALs, as well as with local extension services, to support the development of innovative climate tools and approaches that are better suited to their needs.

- *Capacity development:* **National and local governments, alongside extension services and supported by development partners and research communities**, should build capacity for private actors to use existing climate information, to manage uncertainty in decision-making and to translate climate projections into adaptation options and costed business cases that are robust in the face of dynamic social and environmental changes.

- *Economic and financial environment:* **National and local governments** must prioritise increasing access to capital and business loans for private actors.

3. Public policies and investments need to account for the flexibility, mobility and diversity in SAL systems and remain responsive to different actors' changing needs – including those of informal enterprise, women and producers' cooperatives.

- **National governments** should ensure that all policies and products designed to support adaptation and climate-resilient development among the private sector are flexible enough to support the different systems and actors in SALs, their different modes of production and ways of doing business and their diverse adaptation responses.

- **National governments and development partners** need to create space within policy and financial interventions to work with informal enterprises, as well as women's groups and producers' cooperatives, and increase their access to key resources.

- **Development partners** need to make international climate funds, such as the Green Climate Fund and Adaptation Fund, and their implementing agencies, more accessible to the private sector in SALs and tailored to their needs, by recognising the diversity in type, size and formality of private sector actors. Particularly, farmers should be recognised as 'producers' rather than simply 'households', to make them eligible to new streams of international funding for the private sector (e.g. through the Global Environment Facility).

- **National and local governments** need to broaden business development finance opportunities to more inclusively target the range of private actors in SALs and their varied requirements, including Sharia-compliance in areas where Muslim populations live. These need to be accessible to informal enterprise, individual producers, women's collectives and MSMEs of various sizes as well as to private actors that experience more restricted access to formal land ownership, such as women,

mobile pastoralists and producers who farm land that is either communally owned or allocated through informal tenure.

- **National and local governments** need to support the mobility of people and livestock across borders by removing policies that seek to limit migration and population return and developing regulatory frameworks and legal instruments that support migrants' rights and freedom of movement. For example, national and local governments could introduce social protection measures and labour laws that reduce the opportunity for exploitation of migrants. National governments also need to provide supportive infrastructure and financial services for effective migration, including for safe remittance transfers. These need to account for the heterogeneous nature of migrants, as well as the diverse forms of temporary and permanent migration that they may engage in.

4. National and local government agencies need to collaborate and coordinate policies and interventions across sectors and scales to open up opportunities for more coherent, inclusive and large-scale adaptation and climate-resilient development in SALs.

- **Government ministries and other actors responsible for climate change adaptation, development of SALs, and private sector growth** need to enhance their interaction, collaboration and communication to avoid duplication of structures and actions, to ensure more efficient use of resources and budgets and better delineation of responsibilities, as well as to prevent conflicting policies that undermine investments and sectoral strategies and act as barriers to private adaptation.

- **National and local governments** need to integrate migration considerations within territorial and national development and adaptation policies, with planning integrated across rural and urban scales to reduce the vulnerability of migrating populations. This includes policies in the areas of health, education, agriculture, industry and employment.

- **National and local governments, alongside their development partners and private sector actors**, should explore opportunities for multi-stakeholder partnerships to support coordinated action on enabling private adaptation across scales and sectors.

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