1   Drylands, frontiers, and the politics of change

Angela Kronenburg García, Tobias Haller, Han van Dijk, Jeroen Warner, and Cyrus Samimi[1]

Introduction

Change is of all times, but it would appear that in the drylands it is happening in an overwhelming manner. Climate change, growing political instability, and increasing enclosures of large expanses of land are some of the changes with far-reaching consequences for those who make their living in the drylands. In the dryland areas of Africa, the Middle East, and Central Asia/Inner Asia, these changes are taking place against the backdrop of a rapidly growing population, a lack of employment opportunities for the youth, food insecurity, and often long-standing state failure to provide basic services such as education and health care. However, under the radar, there are also signs of wealth creation in forms that are locally meaningful (Brockington and Noe 2021), as well as an increasing number of people taking things into their own hands—for example, through social movements. This edited volume is about the changes that arise from the entanglement of global interests and narratives with the local struggles that have always existed in the drylands. The notion of 'frontier' is a useful starting point to frame this entanglement, as the term can be understood both as a narrative and as a place in flux (Imamura 2015). This introductory chapter uses it as a metaphor to paint the broader picture and as a way to bring the different chapters in the volume together. However, when digging deeper into the contemporary changes and struggles (as the individual chapters do), and in order to understand the full politics of frontier processes, we take analytical approaches that take into account historical institutional changes and different forms of power relations. While recognizing that changes are co-produced by differently positioned actors from within and outside the drylands, this volume aims to provide the viewpoint of the drylands. It therefore takes the views, experiences, and agencies of dryland dwellers as the point of departure to understand the changes that are impacting on and transforming their lives, livelihoods, and future aspirations.

Drylands as frontiers

As a narrative or discourse, a frontier refers to a 'space of opportunity' (Imamura 2015: 96), and it is typically thought of in this way by outsiders such as investors, donors, and the media when they describe the untapped riches or development

potential (i.e. the need of development) of what they regard as faraway and isolated areas. The deserts and grasslands of Mongolia, for example, have been described as 'the new frontier' by mining investors, following discoveries of the world's largest copper and gold deposits in 2001.[2] Similarly, scholars have referred to undeveloped areas of research as new frontiers. As a place, 'frontier' refers to a geographical region that is facing a new expansive force, usually externally driven, and suggests that the area is about to be transformed or is already undergoing rapid transformation (Imamura 2015). Although the concept of frontier has primarily been used to analyse rapid land-use change (e.g. agricultural expansion), this powerful force

> could be anything so long as it is commonly understood to be expanding in a rapid and overwhelming manner: it could be neoliberalism, urbanization, democracy, Christianity, terrorism, nuclear science, or digital technology.
> (Imamura 2015: 97)

It is in this broad sense that we propose to look at drylands as frontiers. This volume will discuss the struggles and entanglements triggered by forces as diverse as the global land rush, the expansion of new Information and Communication Technologies (ICTs), urbanization, the COVID-19 pandemic, and the spread of violent extremism. There are thus multiple 'frontiers' at play in the drylands, interacting with each other and with local ongoing processes, some of which may have been shaped by the 'legacies' of previous 'waves' of transformation (Kronenburg García et al. 2022), such as those stemming from the colonial period (see e.g. Haller 2019). The changes that come out of these processes are overwhelming, because they are so many and happening at the same time or in rapid succession, and/or intensifying each other. Put slightly differently, the drylands are a frontier for different actors and interests, whose actions are driven and legitimized by narratives of opportunity (this is what articulates the two notions of frontier). Yet, because frontiers are places where actors of unequal power interact (Tsing 2005), opportunity for some may mean misfortune for others. Narratives are part of this politics of change, evident in the labelling of the location (drylands in our case) and the 'othering' of the people that inhabit it, often in a negative way. Interactions with others shape ideas of the 'self' and produce new identities (Sökefeld 1999). This volume thus also delves into the narratives that inform and legitimize many of the interventions, investments, and ascribed identities that will be described.

The remainder of this chapter (after the background section) will provide overviews of the different chapters of the volume, organized in sections in such a way that they support points made (e.g. about narratives) or distil some general patterns arising from thematically related chapters (e.g. land-based investments and interventions). The order in which the overviews appear here does not reflect the structure in which they appear in the volume.

Background to the volume

This volume came about at the initiative of Working Group 2 of the COST Action 'Drylands Facing Change: Interdisciplinary Research on Climate Change,
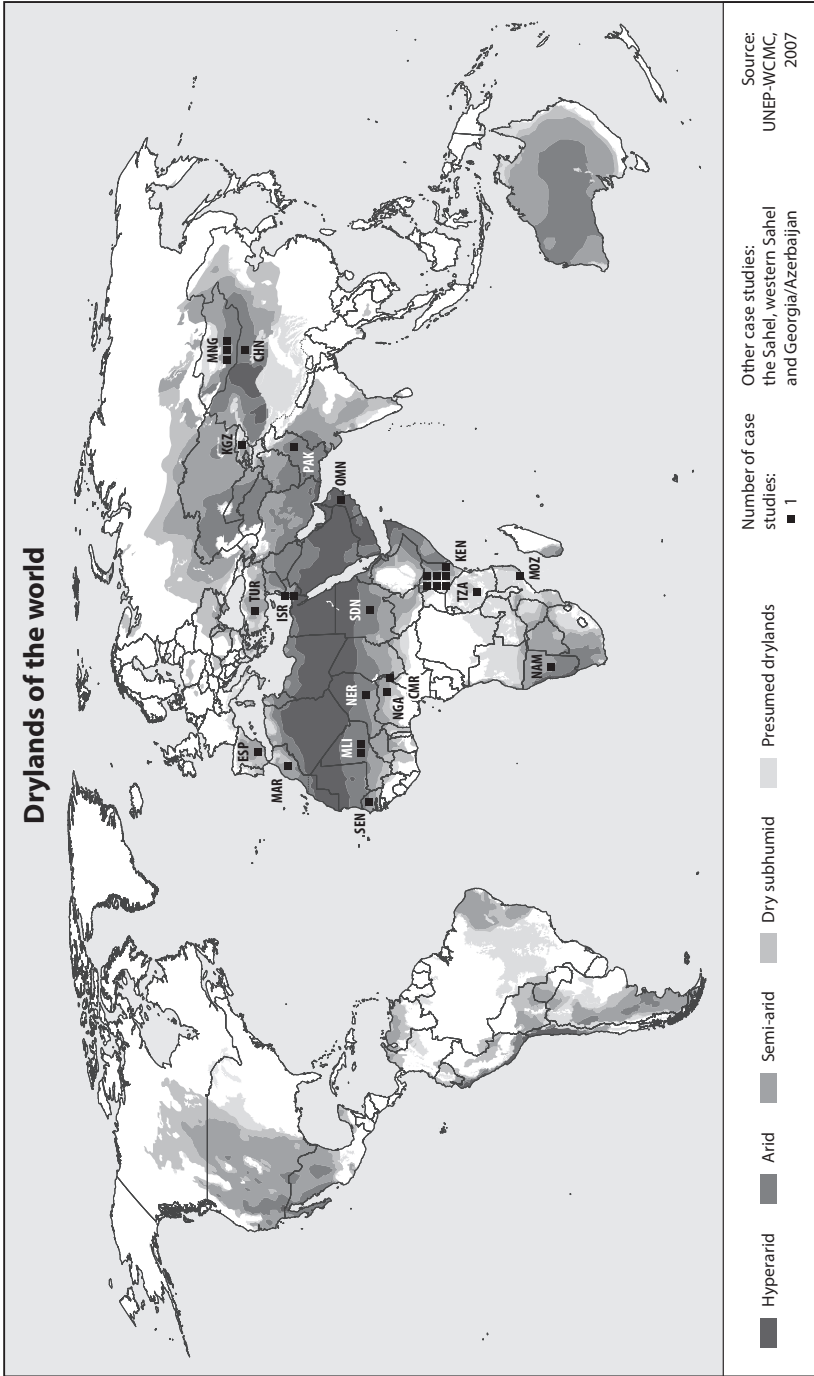
Figure 1.1 Drylands of the world.

Food Insecurity, Political Instability', a research network that brought together dryland scholars from Europe and beyond, and that ran between 2017 and 2021.[3] This backdrop explains some of the thematic, methodological, and geographical choices made for the volume. First, thematically, Working Group 2 focused on the nexus of conflict, institutions, and natural resource use; therefore, much of the volume deals with the impacts of large land-based investments and interventions on access and governance over land and natural resources. This is important because the livelihoods of dryland populations are largely land- and natural resource-based. Second, methodologically, we chose a collaborative approach that is reflected in the multi-authorship of the different chapters. Most chapters are organized around case studies, the majority of which draw from authors' past empirical research and sometimes from new unpublished research material. In this way, each chapter provides a literature review of the subject matter, while also illustrating it with concrete examples from the drylands.

Third, geographically, the 'Drylands Facing Change' COST Action focused on the drylands surrounding Europe, as the place of origin of many of the refugees and migrants in Europe. The aim was to bring nuance to simplistic explanations of the problems in dryland areas that allegedly underlie these flows of people, including a critical look at the role of European actors therein. Although this volume does not delve into the EU migration question, that question influenced the geographical focus of the COST Action. Therefore, the volume's coverage of the world's drylands is limited to the dryland regions of Africa, the Middle East, and Central Asia/Inner Asia, with one chapter including a case in southern Europe.

In terms of the extent of the drylands in these regions, we take as our starting point the most common and accepted definition of drylands, which relates to their aridity. Officially, drylands are areas where the aridity index is no more than 0.65, classified into four zones: hyper-arid, arid, semi-arid, and dry sub-humid.[4] However, there are areas with a greater aridity index (i.e. more humid than the dry sub-humid zone) that still have significant dryland features ('presumed drylands' on the map), particularly that of seasonal water shortages, large expanses of which areas are found in Africa (FAO 2019).[5] In this volume, we take a broad view of drylands that includes these non-official dryland areas (Figure 1.1).

Drylands and dryland livelihoods

Drylands cover at least 46% of the global land area and are home to around 3 billion people (IPCC 2019). They are characterized by limited water; low, unpredictable, and spatially variable rainfall that is also highly variable from year to year (i.e. droughts); and a pronounced dry season. As a result, the natural resources to base livelihoods on are dispersed, variable, and available only seasonally, particularly water. Based on knowledge produced over time, dryland populations have adapted their resource uses to these dynamic conditions, which, in turn, have shaped dryland landscapes and infused them with cultural meaning (Haller 2019). These populations include farmers, pastoralists, hunter-gatherers, fishing communities, and artisanal miners. We can find many variations (e.g. shifting

cultivation, recessional agriculture) and mixes (e.g. agropastoralism, pastoralism combined with artisanal mining) of rural livelihoods in the drylands, linked to markets to various degrees. Mobile livelihoods, however, seem to be best suited to dealing with the uncertainties and variabilities of dryland environments, particularly during prolonged dry seasons and droughts.

Chapter 2 discusses how mobility, particularly that of pastoralists, requires institutions (rules) that allow for the flexible (re-)negotiation of access and common use of resources in both space and time. Institutions to manage access to common-pool resources (e.g. pastures and water) co-exist with more exclusive and individual claims—such as those over agricultural land by small-scale farmers—and when these overlap and cannot be coordinated they may lead to conflict. The authors show that mobility and flexibility may be more important now than ever before because climate variability in the drylands is increasing and therefore also the patchiness of resources. Given these changes, the authors propose a new analytical framework for understanding resource governance in drylands that is built around the notion of institutional flexibility.

Chapter 10 shows how urban livelihoods have become an integral part of the drylands. It explores how non-linear, circular rural–urban migration to dryland cities shapes new livelihoods. Sudan has seen migration from farmers and pastoralists to Khartoum in search of opportunities as well as to escape from precarious livelihoods, droughts, and violent conflict. Most have ended up in the informal sector. In Inner Mongolia (China), disasters (heavy snowfall, droughts, dust storms) and mobility limitations increasingly compromised pastoral livelihoods. The state then introduced policies to settle pastoralists into urban livelihoods. Results were mixed; after a few years, many went back to their pastoral homes and resumed herding, while most of those that stayed maintained strong rural links, relying on both places for their livelihoods. The Khartoum case also shows a similar dynamic of rural return and multi-sited livelihoods. In drylands, rapid urbanization is increasingly shaping these interlinked rural and urban livelihoods.

Narratives

Narratives are important because they have material effects and shape identities, especially those that are propagated by powerful actors such as investors, international conservation organizations, UN agencies, state authorities, elites, and others (see Chapter 3).

One narrative that returns in several of the chapters is that of drylands as 'wastelands'—that is, regions of little economic or environmental value, inhabited by poor people that are degrading and exploiting the land—and therefore drylands require intervention (Hoover et al. 2020). Pastoralists in particular have been accused of overstocking, overgrazing, and desertification, a narrative that is plainly incorrect, as Chapter 2 explains. Pastoralism has also been described as a 'traditional', 'backward', and 'irrational' practice that needs to change (see Chapter 5). These narratives have informed all kinds of policies and development interventions in the past and still today (see Chapter 11 for the introduction of a

mobile phone app to replace 'old' ways of finding pasture and water). Another narrative that dates back to the colonial past is that of drylands as home to 'unruly' people (because mobile) that need to be controlled. This narrative has made a recent comeback in the labelling of drylands as hotbeds of extremism and its inhabitants as 'terrorists'; yet, as Chapter 9 demonstrates, there is no necessary link between drylands and extremism. The ascribed 'terrorist' identity legitimizes foreign military interventions in the Sahel and other places, but can also be used locally to prevent investments (Haller 2020).

The narrative of wastelands belongs to a particular category of 'environmental crisis' narratives, discussed in Chapter 3 with three case studies (on the water wars, Sustainable Development Goals (SDGs), and energy transition narratives). Labelling a situation as a crisis legitimizes urgent intervention and accepts the sacrifice of some for the collective good. The energy transition narrative, for example, purports to fight the global climate crisis; but in resource-rich regions where the resources required for clean technologies are found, this narrative overlooks many inconvenient effects, particularly that of displacement of rural populations. Dominant regarding the drylands is a simplistic Malthusian crisis discourse: overpopulation leads to resource scarcity leads to poverty leads to violent conflict. The water wars narrative is based on unfounded links between water scarcity and violent conflict but has justified many top-down interventions in (potential) conflict zones in drylands. Malthusian misconceptions also underlie the SDGs, particularly the idea that overpopulation, poverty, and environmental problems are produced locally and can be fixed by states and investors, a framing that depoliticizes the historical roots and the political economy of these problems.

Underlying many of the recent large-scale land-based investments and interventions is a narrative of opportunity, which strategically connects not only with other development (e.g. to create employment) and crisis narratives (e.g. the need to feed a growing global population), but also with similar narratives that have a long history in the drylands. The 'unowned and vacant lands' narrative, underpinned by a sedentary and agricultural bias, enabled most colonial states to claim lands that were not settled or permanently cultivated as their own, including the power to sell, lease, and grant these lands to white settlers and companies (Alden Wily 2012). Hence, this narrative disregarded rights to land and resources that were used seasonally and for purposes other than agriculture, such as wetlands, grazing land, hunting grounds, and forests (Alden Wily 2012), many of which resources are found in drylands. The 'unowned and vacant lands' narrative is intimately linked to a discourse of *terra nullius* that defines drylands and particularly commons as 'empty' and 'underutilized' (Makki 2014). Together, these narratives lie at the root of the invisibility of local institutions and of the importance of common-pool resources for dryland livelihoods, and, as Chapter 5 explains, they drive much of the 'commons grabbing' (Haller 2019) currently taking place in the drylands.

The narrative of opportunity links to these older narratives but also adds a new twist. It echoes the *terra nullius* discourse, with its notion of emptiness (frontiers are often viewed as sparsely inhabited areas), and the 'unruly' place narrative, with its idea that frontiers are conflict-prone and thus somewhat risky investment

destinations (Tsing 2005). But beyond this idea of emptiness (of people), this narrative also emphasizes the large opportunities offered through an 'abundance' of resources (Larsen 2015), be they 'free' or 'available' land, large graphite deposits for energy transition, wildlife for biodiversity conservation, or wind for clean energy production. Frontiers emerge when an abundance of new resources are discovered or (re)invented and become accessible, and when actors rush in to commercialize, develop, or protect these resources (Rasmussen and Lund 2018). It is this narrative of 'empty, but full' (Regassa et al. 2018: 8), supported by other narratives, that legitimizes large-scale investments and interventions in the drylands.

Land-based investments and interventions

The global land and resource rush—that is, the recent wave of large-scale land-based investments and interventions across the world—has worked its way into the drylands. Investments and interventions can come in various forms: commercial agriculture, resource extraction, infrastructural development, and nature conservation. Each form builds on its antecedents and has its own history of acceleration. The global rush for mineral extraction began in the early 2000s when many countries liberalized their mining sector (Jacka 2018), while the rush for farmland accelerated later around the food and financial crises in 2008 (Alden Wily 2012). A new wave of conservation interventions emerged in the early 1990s when community-based conservation initiatives started to spread outside national parks and reserves (Adams 2004). The most recent land-based expansion is the growth of mega-infrastructure projects, epitomized by the Chinese Belt and Road Initiative and the re-emergence of development 'corridors', especially in Africa (Chome et al. 2020; Haller et al. forthcoming). All of these take control of large areas of land by deploying more exclusionary access regimes in the form of private property or state property, which not only reduce the natural-resource base of dryland livelihoods but also run counter to the institutional flexibility that is needed to cope with the environmental vagaries of the drylands. Chapters 4–8 zoom in on the politics of resource access and governance. They explore how longstanding land uses and access institutions are being affected by large investments and interventions, and what this means for dryland livelihoods.

Chapter 4 looks at the investments and interventions that occur in wetland areas, a vital source of water and other resources for dryland populations. Based on three cases of large-scale wetland appropriation in Africa (for irrigated agriculture in the Sahel, biodiversity conservation in Cameroon, and heavy sands mining in Mozambique), the chapter discusses three processes of change: the rigidization of resource use and management (as opposed to the flexibility suitable for a climatic-variability context); the institutional changes that undermine local common property institutions and eventually lead to open access and violence; and the (anticipated) loss of resilience as historical wetland users lose or face losing access to a key source of livelihood and food security.

Chapter 5 focuses on large-scale agricultural investments. It builds on, yet critically engages with, the 'land grab' debate and discusses four blind spots that

are particularly relevant for understanding the impacts on dryland populations. One is the variability of numbers reported on single investments, highlighting the need for studying investments as processes with open outcomes. Another is how the label 'land grabbing' has obscured similar processes in regions where such labelling is not used in the scholarship. The third concerns the invisibility of common-pool resources and the importance of their loss to mobile livelihoods. The fourth relates to the scholarly disinterest in studying investment failures and struggles, which risks missing out on important post-investment dynamics. The authors conclude that thorough, on-the-ground, and longitudinal research will best illuminate these blind spots.

Chapter 6 looks at mining struggles in the Sahel (gold along the Birimian Belt, uranium in Niger) and in the Gobi (gold and copper in Mongolia). It discusses the complex relationships between large-scale industrial mining, small-scale artisanal mining, and pastoralism. The authors show that while both industrial and artisanal mining affect pastoralism (by limiting mobility, reducing access, and polluting water and pastures), artisanal mining has also emerged as an alternative, complementary, or temporary livelihood in the face of waning pastoral viability or due to other factors such as conflict-induced displacement. Without this option, the alternative, particularly for the youth, is outmigration (to other countries, urban areas) or turning to illicit activities—for example, joining extremist groups, as was observed in the Niger case.

Chapter 7 presents seven cases of mega-infrastructure projects in Africa and Central Asia developed to improve connectivity, increase agricultural production, generate energy, or to 'green' landscapes. The chapter argues that mega-infrastructure projects link to the land rush in two ways: not only do they 'grab' land and resources themselves; they also improve accessibility to previously inaccessible regions, giving land rush processes a new boost potentially larger in scale and speed than ever before. In addition, the cases show that impacts are differentiated. While elite actors often secure some gains for themselves, the most marginal groups bear the brunt of eviction, commons grabbing, and restricted access to resources, potentially leading to conflicts between and within communities, as shown in the Kenya case. Finally, as mega-infrastructure projects are often embedded in larger territorial plans, they also extend state control into drylands, sometimes purposively for political reasons (e.g. to curb Kurdish secessionism in Turkey).

Chapter 8 analyses conservation as a new green-grabbing frontier. The expansion of conservation has a long history in the drylands, which the chapter illustrates with four cases. In Oman, the reintroduction of the oryx in traditional pastoral lands was done in a top-down manner and soon led to all kinds of conflicts, including about pastures during droughts. The Caucasus presents a complex case of conflict between nature conservation and cross-border transhumance in the Vashlovani region between Georgia and Azerbaijan. The case of Kenya shows how becoming a community conservancy has been both beneficial and problematic for local agropastoralists, while the community conservancy case in Namibia, though neither perfect nor without conflict, has brought considerable benefits to the local population.

The general picture that emerges from these chapters is that dryland populations are progressively losing access to and control of land and resources and that their commons are shrinking. Faced with few alternatives, this is increasingly compromising their resource-based livelihoods and mobility, adding uncertainty to their lives and challenges to sustainable livelihoods, already under pressure from increasing climate variability and other factors such as population growth. Chapter 2 even foresees a bleak future for mobile pastoralism.

Yet, here and there we discern signs of agency and more positive outcomes. Chapter 4 shows how Nigerian farmers re-appropriated the wetlands after a large agricultural project failed, re-introducing flexible resource use but also mixing old and new practices and knowledges (an important reason behind the argument in Chapter 5 that failures must be studied). Chapter 6 notes how Mongolian herders successfully claimed their rights and came to an understanding with a large mining company, thereby reducing conflict, while Chapter 8 demonstrates that community conservancy status in Namibia can bring considerable ecotourism income as well as stronger tenure security, especially vis-à-vis external groups interested in the land.

Chapter 13 focuses entirely on stories of success. It shows that under certain conditions, new institutions for governing access to natural resources can be crafted from below in response to disruptive changes, including changes triggered by large-scale investments and interventions. In Spain, local farmers organized themselves successfully to manage groundwater for irrigation after the state threatened to take over control. The Malian case study describes a fair and successful constitutionality process, mediated by an international NGO after external actors began to cut trees uncontrollably. In Israel, a huge wildfire exposed the failure of the state to protect a forest, which in turn empowered local groups to re-gain control over it. And in Kyrgyzstan, after years of unresolved conflicts, local residents successfully (and violently) halted a mine that had degraded their land, fragmented their pastures, and polluted their water. In all cases, support by an external agent, strong institutional memory, and high esteem and self-determination by local actors emerged as important factors for successful institution building.

Entanglements

While the chapters discussed in the previous section emphasized the impacts and implications of externally driven forces, the last set of chapters (9, 11, and 12) looks more closely at the *entanglements* and *articulations* of global forces with local existing struggles and conditions.

Chapter 9 shows how this entanglement can lead to violence. It discusses the spread of violent extremism and Muslim jihadism in dryland areas over the past decades. Focusing on the situation in the western Sahel, the chapter argues that violent extremism can best be understood as the connection of Muslim jihadist groups coming from the north, the global spread of a new Salafist interpretation of Islam (providing the 'ideological fuel'), and, importantly, local grievances

stemming from feelings of marginalization, especially among the youth. Fulani pastoralists, for example, joined forces with jihadists only when international peacekeepers were unable to provide security; but these pastoralists were equally inspired by Muslim sermons that resonated with local discontent about the loss of pastures and mobility, and about exploitation by state actors and their own elites. The authors propose to see violent extremism in the drylands as a rebellion from the rural periphery against dominant powers.

Chapter 11 explores the interaction of new ICTs with (ex)pastoral societies through four case studies. The Kenya case critically evaluates the assumptions of the developer of a new app called AfriScout, which aimed to provide pastoralists with information on grazing and watering areas (through maps), as well as on diseases and violent conflict. The Israel case shows how ICTs excluded female Bedouin students even more during the COVID-19 pandemic than before, as they experienced various digital divides and gaps. The Mongolia case discusses the efforts of local and international researchers to develop an app to empower pastoral communities with information and knowledge about mining activities in their vicinity. Finally, the Mali case shows how mobile telephony was instrumental in uniting Fulani pastoralists to establish security in their region and eventually mobilize against the state by joining jihadists. In the latter case, ICTs clearly shifted power relations.

Chapter 12 presents the most recent experience in the drylands of a rapidly expanding global force: the COVID-19 pandemic and particularly the harsh lockdown measures implemented in many dryland countries. Through four case studies in Kenya and Mongolia, the chapter shows how lockdowns challenged the lives and livelihoods of (agro)pastoralists in multiple ways; there were, for example, clear gendered impacts and in some places increased food insecurity. But there were also unexpected outcomes that bespeak the resilience of pastoral systems. In Kenya there was a revival of mobile pastoralism as conservation areas allowed grazing when tourism stopped; and in Mongolia, pastoralists provided food to the capital by organizing convoys of meat, receiving new national appreciation. This chapter shows that pastoralism was a key strength to weather the crisis and even contributed to supporting urban lives.

Final reflections

Chapter 12 is a good chapter with which to conclude this introduction. It reiterates the fact that drylands are not wastelands with unproductive land uses and people, but valuable regions with considerable economic and human potential. Such insights are no surprise when research is attentive to local voices. Travel restrictions during the COVID-19 pandemic prevented in-person fieldwork, and researchers had to adopt a remote and participatory approach to study the lockdown impacts and responses. They engaged dryland (agro)pastoralist friends as collaborative researchers and co-authors, who documented their communities' lockdown experiences and digitally shared their perspectives. Although this form of knowledge co-production requires careful, ongoing methodological

reflection and is not without its challenges, it perhaps responds most clearly to the volume's aim of taking the views, experiences, and agency of drylands inhabitants as a point of departure for analysis and research. Along with the other chapters in this edited volume book, we hope to have made a contribution to sharing a drylands' perspective on the multiple changes that dryland populations are currently facing.

Notes

1 Many thanks to Patrick Meyfroidt for his very helpful comments on an earlier draft of this chapter.
2 'Special report: Mongolia's fabled mine stirs Asian frontier'. https://www.reuters.com/article/uk-special-report-mongolia-mine-idUKLNE69B05T20101012 [accessed 25 April 2022].
3 COST Actions are funded by the European Cooperation in Science and Technology (COST). Their funding covers networking events (meetings, workshops), not new research. The 'Drylands Facing Change' COST Action (CA 16233) was chaired by Prof. Han van Dijk and co-chaired by Prof. Cyrus Samimi. Working Group 2 was co-led by Prof. Tobias Haller and Dr. Angela Kronenburg García.
4 The aridity index is the ratio of annual precipitation and mean annual potential evapotranspiration.
5 Although the Pamir Mountains in Central Asia are arid, FAO (2019) classifies them as 'presumed drylands'.

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