

# Narratives of scarcity: understanding the 'global resource grab'

**Ian Scoones, Rebecca Smalley, Ruth Hall, Dzodzi Tsikata**

February 2014

## **Abstract**

Global resource scarcity has become a central policy concern, with predictions of rising populations, natural resource depletion and hunger. Resulting narratives of scarcity drive behaviour and justify actions to harness resources considered 'under-utilised', leading to contestations over rights and entitlements and producing new scarcities. Yet scarcity is contingent, contextual and above all political. We present an analysis of three framings – absolute scarcity, relative scarcity and political scarcity – associated with the intellectual traditions of Malthus, Ricardo and Marx, respectively. A review of 134 global and Africa-specific policy and related sources produced over the past six years demonstrates how diverse framings of scarcity – what it is, its causes and what is to be done – are evident in competing narratives that animate debates about the future of food and farming in Africa and globally. We argue that current mainstream narratives emphasise absolute and relative scarcity, while ignoring political scarcity. We suggest a more political framing of scarcity requires paying attention to how resources are distributed between different needs and uses, and so different people and social classes. This requires, we argue, a policy emphasis for land and resource issues on rights and access, and distributional issues, centred on equity and justice.

## 1. Introduction

Understandings of what has been called the 'global resource grab' – the large-scale acquisition of land and other resources by governments, agribusiness companies and financiers often in overseas territories – have often been cast in terms of 'scarcity'. A number of overlapping narratives are at play. Commodities, be they food, feed or fuel, are deemed scarce, and therefore sought in areas where land and water in particular are seen to be relatively abundant. This involves taking advantage of global comparative advantages of demand and supply to realise a 'win-win' situation, in which commodities are supplied to those who need them while those who have the resources to produce them profit as well. A related narrative sees rising scarcities as a threat to peace. As the world runs out of resources, increasing competition potentially leads to processes of exclusion, conflict and the undermining of development. Some narratives also suggest that if environmental limits are exceeded, dangers may arise, as we transgress earth system boundaries.

What does the deployment of the term scarcity imply? How should we understand it? And what narratives arise from these diverse understandings? In this paper, we explore how scarcity is manufactured in policy debates; and by who, to what ends, and involving what forms of knowledge politics. Notions of 'scarcity' are deployed as a deliberate political strategy by different groups (Hildyard 2010; Mehta 2010a; 2001; Xenos 1989; Daly 1974). For example, the concept of scarcity is strategically deployed within neoclassical economics to justify property rights regimes (Mehta 2010b). Claims of current or imminent scarcity have been used to justify appropriation and dispossession of resources (McCarthy and Wolford 2011), or to support repressive policies such as population control (Hartmann 2010). Pointing out the constructed and political nature of scarcity, however, is not a call to relativism – 'real', material scarcities clearly exist – but an acceptance that meanings and interpretations are co-constructed in particular policy settings, in arenas of power and contestation. There are winners and losers from different policy narratives, as they have material effects, and shape outcomes in struggles over resources. Scarcity narratives do not merely describe but justify changes in access to and control over resources, in ways that might reduce but also reallocate scarcities across regions and populations. It is for this reason that a deeper look at the narratives of scarcity currently being deployed in policy arenas is important.

This paper examines these narratives of scarcity through an analysis of 134 policy sources produced since 2007, with a particular focus on Africa (see Appendix)<sup>1</sup>. The aim is to interrogate the assumptions and analyse the positioning of these narratives, as a way of exploring the framing and response to assumed resource scarcity. Our content analysis was guided by the question: what framings of scarcity are visible in policy, investor,

agribusiness and civil society material concerning agriculture, natural resources, food availability and the global land rush? We considered material that addresses these issues at a global level, as well as material that focuses on sub-Saharan Africa. We systematically selected material that has been widely cited in academic and grey literature on the land rush since 2007, as well as material from organisations, donors and agribusinesses that have been influential in wider debates about land and agriculture, especially in Africa<sup>2</sup>. Our sources are categorised into five groups:

- International policymakers, advisers and donors (e.g. World Bank, FAO, IFPRI, the UK think tank Foresight);
- African regional policymakers, advisers and donors (e.g. African Development Bank, NEPAD, the Southern African Development Community);
- Private investors, asset management firms and public-sector investment arms (e.g. Chayton Capital, Rabobank, International Finance Corporation);
- Agribusiness (e.g. Syngenta, Cargill, Illovo Sugar);
- Civil society and NGOs, especially on 'land grabs' (e.g. Oxfam, ActionAid, GRAIN, African Biodiversity Network).

The material was mostly textual, such as reports and web pages, with some video interviews (see Appendix). This was a qualitative analysis involving a close reading of the texts, looking for discourses of scarcity and related narratives as they are revealed through storylines, metaphors and omissions (Keeley and Scoones 2003; Forsyth 2003). To help understand the authors' underlying attitudes towards scarcity, we looked for key words and phrases that signify particular positions, such as 'yield gap' and 'limits'. The textual material amounts to thousands of pages, reflecting the explosion of policy and campaign literature on the subject.

This paper is divided into four parts. Following an introduction to the 'land rush' context since 2007-2008, especially in Africa, the paper moves to a review of some of the foundational literatures on the concept of scarcity, and identifies three 'framings' of scarcity that each contribute to different degrees to the policy narratives identified. Next, the paper analyses how ideas of scarcity are represented in the majority of sources, and the processes through which 'scarcity' is constructed in these mainstream narratives. The final section of the paper offers a critical assessment of the mainstream narratives that we uncovered, highlighting the gaps and silences, as well as the emergence of some alternative narratives. In conclusion, the paper argues for a greater emphasis on the political dimensions of scarcity.

## 2. The land rush context

The land rush sparked by the global financial, food and fuel crises of 2007-2008 occurred in a context shaped by cycles of land rushes in Africa – first in the colonial period when Africa was partitioned by global powers, then in the 1980s with far-reaching economic liberalisation policies, including land market liberalisation and the passage of investment codes targeted at promoting foreign direct investment.

These cycles of land acquisitions have established various models of large-scale commercial farming by transnational corporations for export commodity production alongside the dominant systems of smallholder agriculture across Africa (White et al. 2012). Since the 1980s, these commercialisation processes have prompted land concentration and the individualisation of land ownership. Even in countries dominated by peasant agriculture, there is increasing dispossession of small farmers for a range of land uses – notably mining, agriculture and tourism. These changes have also intensified the commodification of hitherto non-market land transactions, tenure insecurity and land conflicts in many countries, creating the basis for land reforms.

The 1990s saw extensive state-led reforms based on the promotion of communitarian principles hand in hand with the expansion of land markets. Common measures under these reforms included the adoption of land policies based on market principles, titling and registration programmes, the reform of land tenure institutions, the consolidation of legislation and the formalisation of customary land tenure administration. These reforms have been aimed largely at retooling land administration to increase its efficiency with little attention to land redistribution and tenurial reforms.

Economic liberalisation resulted in the increased financialisation of capital and an expansion of capital markets and speculative activities. As well, this period has seen a transformation of the world economic and political order with the rise of the BRICS (Brazil, Russia, India, China and South Africa), developing countries with large and fast growing economies, markets and considerable capital reserves, allowing them to become key players in an increasingly multi-polar world.

The food and fuel price spikes of 2007-2008 provoked global alarm among these and other actors. A long period of cheap resources seemed to be over. This hit consumers hard, with food riots occurring in a number of countries. The UK's former chief scientific adviser, John Beddington, captured the imagination by describing a coming together of forces – rising demand for food, water and fuel caused by population growth, urbanisation and consumption changes, increasing shortages of those resources and the challenges of climate change – that threaten to create a 'perfect storm' on a global scale (Beddington 2009a; 2009b). References to resource scarcity have since become commonplace. Announcing a new report in 2011, the UN's Food and Agriculture Organization (FAO) claimed:

Widespread degradation and deepening scarcity of land and water resources have placed a number of key food production systems around the globe at risk, posing a profound challenge to the task of feeding a world population expected to reach 9 billion people by 2050. (FAO, 2011c: para. 1)

From this period there has been an explosion in what some term 'land grabs' – investments in large-scale commercial farms – often linked to 'water grabs' to guarantee irrigated production. Such investments have often been justified in terms of 'scarcity', with overseas investments focused on stable, secure and sustainable food and fuel supplies to meet demands at home. Such investments have involved both food crop and biofuel production, and have occurred on a large scale, although the extent of functioning investments is disputed<sup>3</sup>. A large proportion of these are in Africa, where the debate over the pros and cons has been intense (Deininger and Byerlee 2011).

Globally, the policy debate has thus intensified, with much discussion about the drivers and consequences of the rush for scarce resources. The European Commission's Report on Development for 2011/12, entitled *Confronting Scarcity: Managing Water, Energy and Land for Inclusive and Sustainable Growth*, comments:

Projected scarcities of food, water and energy, and the search for investment opportunities to satisfy food security in an increasingly global market have led to growing pressure on land worldwide ... Large-scale land acquisitions are just one manifestation of the increased pressure on land. (EU, 2012: 87)

Equally, the Washington-based International Food Policy Research Institute (IFPRI) observes:

Increased pressures on natural resources, water scarcity, export restrictions imposed by major producers when food prices were high, and growing distrust in the functioning of regional and global markets have pushed countries short in land and water to find alternative means of producing food. (IFPRI, 2009: 1)

These contexts, concentrated at a particular historical moment, have thus introduced a series of elements into the current land rush, influencing the scarcity narratives surrounding it, its players and their agendas. But how should we conceptualise these? The following section offers three contrasting framings.

## 3. Understanding scarcity: Three conceptual framings

Ideas about scarcity are fundamental to our understanding of economics and politics. From Thomas Malthus's treatise on population first published in 1798 to Lionel Robbins's famous 1932 definition of economics – as the 'science which studies human behaviour as a

relationship between ends and scarce means which have alternative uses' (Robbins 1932: 15) – to the environmentalist arguments from the Club of Rome on the 'limits to growth' (Meadows et al. 1972), we have repeatedly related our understanding of human progress to notions of abundance and plenty contrasted with dearth and want.

In particular, perspectives on foreign lands have often been cast in this way. Thus for the colonial powers, the Americas and Africa were seen as places where imperial expansion was possible; where great riches in minerals, agricultural land and natural resources could be found. Cecil Rhodes's grandiose colonial ambitions for extractive commercial enterprise from the Cape to Cairo was very much founded on the assumption that Africa was a land of plenty that could supply the needs of industrialising Britain (cf. Mehta 2010). Such imperial ambitions would thus fuel capitalism and industrialisation, and global 'comparative advantages' could be exploited, as long as political control could be exerted.

Images of landscapes as wild, empty, savage and needing to be tamed dominated colonial thinking, as they have much conservationist discourse since (Wolmer 2003). This has often been wrapped up in a capitalist vision of marketised, commodified nature (Buscher and Goe 2013). Wylie (2007), for example, has written about representations of emptiness and resource abundance in depictions of colonial landscapes, providing historical parallels with the current global land rush:

... non-European landscape is equally simultaneously pictured as natural and pristine, as untouched and untransformed. This symbolic erasure of other possible histories of land occupation of course parallels more literal processes of imperialist land appropriation and indigenous repression... It also ... tends to 'empty' the landscape, just as much as cartography advances a blank space of the unknown before itself. In this way, as untouched nature, the landscape is pictured as ripe for settlement and colonialisation. (Wylie, 2007: 133)

Today's prevailing political-economic discourse in international development institutions resonates with these earlier readings, claiming that globalisation and industrialisation are inevitable processes, and that resource-consuming economic growth is the only route to progress. There is therefore a necessity to commercialise, commodify and extend markets to create efficiencies based on comparative advantage. Demand in one place can be met with supply elsewhere in a globalised world, and natural abundances can be exploited to assuage scarcities. While there may be biophysical limits these can be overcome, in the cornucopian optimists' view, through investment, innovation and ingenuity, driven by ever-more-sophisticated technologies. Just as the great enclosures in Europe brought the industrial revolution, new forms of enclosure and resource privatisation are deemed necessary for the transformation of rural settings to realise such ambitions. In this way

large-scale land investments – or land grabs to some – are justified.

But how scarcities are understood – where, at what scale, in what timeframe, for whom, in what – is crucial for our conceptualisation of and response to such processes. Following Harvey (1974), Perelman (1979), Mehta (2010) and others, we offer three contrasting framings of scarcity rooted in the ideas of the most influential thinkers in political economy of the last few hundred years: Thomas Malthus and conceptions of *absolute scarcity*; David Ricardo and ideas of *relative scarcity*; and Karl Marx and what we call political scarcity. These perspectives have developed over time, with more recent work emphasising particular elements, or combining ideas in different ways.

### **Absolute scarcity**

In the last major 'resource crisis' of the 1970s, arising from dramatic oil price shocks, thinking was heavily influenced by the birth of the environmental movement and the idea of there being 'limits to growth'. Elements of this thinking are currently popular again, with the idea of 'planetary boundaries' getting much comment (Rockström et al. 2009). A clear influence on this work is the intellectual legacy of Thomas Malthus, who is widely credited for introducing the conception of scarcity into economics (Gammon 2010).

Malthus is best known for his polemical *Essay on the Principle of Population*, which he published in 1798 and revised in several editions between 1803 and 1826. Malthus was concerned that humankind would be 'condemned to a perpetual oscillation between happiness and misery' (1970 [1798]: 67). Malthus is posthumously associated with the concept of *absolute scarcity*, meaning an immutable physical limitedness of natural resources that are subject to increasing demands from human society. Despite his acknowledgement of variable qualities of land<sup>4</sup>, he claimed there were limited 'inventions' available to agriculture at the time, so significant increases in agricultural production to offset the population crisis were unlikely. Rather, 'the power of population is indefinitely greater than the power in the earth to produce subsistence for man' (1970 [1798]: 71).

From the 1950s onwards, Malthusian ideas informed debates about population growth, especially in developing countries (Mamdani 1981; Peacock 1953) and in particular in India and Bangladesh (Paarlberg 2010). Concerns were expressed that overpopulation could create social instability, with countries described as 'population powder kegs' (Michaelson 1981). There were increasingly persuasive ideas about planetary biophysical limits, the interconnectedness of whole ecosystems (Odum 1969) and the environmental impacts of human activity, such as pollution (Carson 1963). Much of this work originated in the conservation movement and the maturing discipline of ecology (Ross 1975). Academics and policymakers began to discuss the earth's 'carrying capacity' (Seidl and Tisdell 1999) and debate the optimal or maximum human population of the earth (Fraser

1971). A Malthusian collapse of society seemed more likely than before. 'The human race has expanded to a point of near saturation of its habitat (the earth)', wrote the American biologist Dean Fraser (1971: 4). Concerns over a declining availability of farmland were intensified by the incidence of famines and poverty in the midst of economic development.

In the Club of Rome's *The Limits to Growth*, Meadows and colleagues, worried about widespread malnutrition and based on the simulations of their systems model, predicted 'a rather sudden and uncontrollable decline in both population and industrial capacity' (Meadows et al. 1972: 23). They argued that, with exponential growth, 'one can move within a very few years from a situation of great abundance to one of great scarcity' (1972: 51) and that arable land was too scarce in absolute terms for productivity increases through intensification to be anything more than a temporary measure.

The 'neo-Malthusians' came to be synonymous with gloomy or catastrophic predictions and an emphasis on overpopulation and the finite nature of resources (Lipton 1989). Such ideas are visible in Paul Ehrlich's *The Population Bomb* (1968), in Garrett Hardin's (1968) tragedy of the commons thesis and in work on land degradation and links between resource scarcity and conflict in developing countries (Homer-Dixon 2010). Such neo-Malthusian ideas influenced welfare, population, conservation and development policies (McCarthy and Wolford 2011; Hartmann 2010; Harvey 1974). There is an extreme Malthusian position that argues for population control and strong, centrist, state-led intervention to offset the crisis. This position is rare, but can be found in some documents, and is perhaps most volubly expressed by Lester Brown (1985).

While somewhat more nuanced, contemporary discourses on population, resources and development continue to be framed by (neo-)Malthusian ideas. The theory of 'planetary boundaries', while eschewing a fixity in boundaries, still has at its core the idea of limits and absolute scarcity. For example, Rockström and colleagues (2009: 48) warn that 'humanity may be reaching a point where further agricultural land expansion at a global scale may seriously threaten biodiversity and undermine regulatory capacities of the Earth System'. Equally, as we show below, the scarcity narratives so common in the land grab debate also have clear resonances with earlier discussions, being premised on the notion that there is limited land and water for humanity to use.

### **Relative scarcity**

Many who emphasise the limits to the earth's capacity to support human activity do not adopt a simple Malthusian perspective, but argue for the potential for transformation, especially through technological innovation. Scarcity is therefore relative to use and to other goods, and so scarcity is economic, rather than absolute. 'Scarcity does not mean mere infrequency of occurrence,' explains Robbins (1932: 45), '... it means limitation in relation to demand.'

The neoclassical theory of scarcity, especially as it relates to natural resources, was influenced by earlier work by classical economists, and David Ricardo in particular. Writing in the early nineteenth century, Ricardo emphasised that farmland varies in quality. Furthermore, agricultural productivity is influenced not only by the quality of the land, but also by the amount of financial capital, 'skill, ingenuity and instruments in agriculture' applied (Ricardo 1821a). Thus, whereas for Malthus the great threat to society was population growth, Ricardo was more concerned about the progressive decline in the quantity and quality of farmland (Hussen 2013; Barnett and Morse 1963).

A relative scarcity framing suggests that society responds, through price signals, with technological change. This may involve substitution of the scarce resource; increased recycling of the resource and extraction of lower quality sources; or technological change to increase the efficiency of extraction (Neumayer 2010). Baumgärtner et al. (2006: 489) explain how 'In [neoclassical] economics, it is generally assumed that continuous substitution is always possible, at least on the margin'.

For much of the late nineteenth and twentieth centuries, this optimism appeared to be justified. This was a time of cheap natural commodities, technological leaps and discoveries of new oil and mineral reserves (Barbier 2011; Hubacek and van der Bergh 2006; Neumayer 2000). In agriculture, the Asian Green Revolution could be seen as the ultimate example of technological response to scarcity (Hayami and Godo 2005). Perhaps the high water mark of this technological optimism was the 1963 publication of *Scarcity and Growth*, in which Barnett and Morse (1963) argued that the scarcity hypothesis should be rejected because the costs of extracted natural resources in the United States had declined since 1870.

However, few today would claim that resources are infinitely substitutable or that technological improvements will always offset resource limits. Instead, many commentators would condone some acceptance of limits while arguing for a continued focus on technological solutions. In the field of agriculture, the work of Esther Boserup on technological innovation (Boserup 1993; 1981) and Hayami, Ruttan and Binswanger (Hayami and Ruttan 1985; Binswanger and Ruttan 1978) on labour intensification as a response to resource pressure have been especially influential, entrenching the iconic role the 1960s-1970s Asian Green Revolution has played in development thinking. As the twentieth century progressed, several economists revived the notion of absolute or Malthusian scarcity, emphasising the 'absolute physical limit to non-renewable resources' (Pearce and Turner 1990: 288; see also Daoud 2010; Baumgärtner et al. 2006; Hanley et al 2001; Neumayer 2000).

Lipton (1989) suggests that Malthus's scarcity narrative and neoclassical models of technological response to scarcity are part of the same approach. In his view, society

can respond to a Malthusian situation of population growth putting pressure on land and food supplies through technological innovation to produce more food (as theorised by Boserup) or increase labour productivity (as theorised by Hayami, Ruttan and Binswanger). Further, the nature and success of the response depends on institutions and people's access to resources. As we will show, such a combined approach to absolute and relative scarcity is evident in many contemporary narratives.

### Political scarcity

However, none of these conceptualisations of scarcity – whether absolute or relative or some compromise between them – take account of the political nature of scarcity: how scarcity is perceived and 'manufactured' to suit particular interests; how narratives of scarcity are deployed in political contests over resources; how historical inequalities due to colonialism, exploitation and elite control have affected patterns of resource access and control; and how such patterns are distributed between different groups of people, with real winners and losers in resource struggles. Nor do such analyses reflect on the relational properties of scarcity, as they emerge from social and political interactions.

After the days of Malthus and Ricardo, economic theory on scarcity became less, not more, political. Within neoclassical economics, 'the Ricardian emphasis on classes gave way to theory of individual transactions; concern with distribution gave way to allocation; production gave way to consumption; questions of growth to those of status' (Perelman 1979:82). By contrast, as Harvey (1974) argued, Karl Marx adopted a relational (dialectical) understanding of resource scarcity. He argued that resource scarcity is contingent on the mode of production and that capitalism uses resources inefficiently, leading for example to soil degradation through intensive farming methods (Perelman 1979). He believed that overpopulation should be understood in a capitalist context as a surplus of labour, caused by the alienation of people from their land and the replacement of agricultural labour with technology (Perelman 1979; Harvey 1974). For Marx, scarcity is created by society and is not inherent in nature: 'Unemployment or poverty cannot be reduced to natural laws. Furthermore, such phenomena must not be merely interpreted in terms of human suffering or devastation...they reveal fundamental weaknesses in capitalist society' (cited in Perelman 1979: 86). Marx was hopeful that many of people's artificial material needs that were argued to create a state of scarcity would be transcended after social transformation (Xenos 1989).

In this view scarcity is not independent, but is in relation to historically specific patterns and forces of production, distribution and consumption (Perelman 1979). Resources are produced, and are relational, just as humans are part of nature, interlinked through complex metabolic relations. Absolute and relative scarcity framings often take a 'systems' perspective and fail to interrogate these dialectical relations, thereby

obscuring the political and relational dimensions of scarcity (Harvey 1974).

Capitalism thus generates scarcities through processes of accumulation, but such scarcities equally have an impact on profits, and so subsequent patterns of accumulation. At the root of such a political framing of scarcity are therefore the social, political and economic relations of resource scarcity. Enclosures, and appropriations of resources as individual, private property, for example, are the direct result of such capitalist processes, creating scarcities for some, but resource access for others, differentiated usually by class. Under contemporary financialised globalised capitalism, speculative surplus capital in search of secure investments can lead to 'accumulation by dispossession' (Harvey 2003), as 'new enclosures' are created through processes of private accumulation (White et al. 2012; Hart 2006).

The issue of distribution and access was raised most powerfully by Amartya Sen in his 1981 publication *Poverty and Famines*. This prompted a paradigm shift in thinking on food supply and food security (Harvey 1994), moving the focus from questions of 'availability' to ones of 'entitlements' and people's ability to command access to food.

Though less discussed, differentiation by gender, generation and in some cases ethnicity are also important in this regard. Boserup's identification of sub-Saharan Africa as an area of female farming systems spawned research and writing which has sought to complicate the meaning of concepts such as food security and productivity and to expand the scope of analysis to take into account processes of reproduction within agrarian production systems. This literature has drawn attention to the ways in which the sexual division of labour, the gendered control of production resources and decision making as well as the gender ideologies buttressing them, have resulted in scarcities for women. In this way, gender analysis can be seen as a particular variant of the narratives based on political scarcity.

More recent contributions from political ecologists, sociologists and anthropologists extend understandings of political scarcity, focusing in particular on knowledge politics and how scarcities are constructed discursively (McCarthy and Wolford 2011; Mehta 2010a; 2010b; Hartmann 2010; Forsyth 2003; Peet and Watts 1996). The political 'manufacture' of scarcity is seen to frame policy discourse and action, with questions raised over how claims about resource scarcity are made (Mehta 2001). A focus on the local level and the micro-practices of resource use and management equally show how resource scarcity looks very different when compared to the global gaze (cf. Scoones 2010; Mehta 2005). Such contemporary critical social science analysis highlights the relational, social and political dimensions of scarcity in ways that go beyond the more structural, class analytics of earlier work, and look at how knowledge and practice, constructed across scales, intersect with structural dynamics.

**Table 1. Three framings of scarcity**

<b>Framing</b>	<b>Key proponents</b>	<b>Understanding of scarcity</b>	<b>Understanding of the problem</b>
<i>Absolute</i>	Ecological economists, resource ecologists, demographers	Scarcity is physical, real and inescapable.	The problem is finite limits.
<i>Relative</i>	Neoclassical and agricultural economists	Scarcity is relative to demand. Physical limits can be mitigated through economic comparative advantage, science, technology and innovation.	The problem is underproduction due to suboptimal allocation of resources.
<i>Political</i>	Critical political economists and sociologists, political ecologists	Scarcity is defined relationally and can be manufactured, both politically and discursively.	The problem is access, inequality and the historical relations of power.

### **Framing scarcity**

Table 1 offers a summary of these three framings of scarcity.

The three framings may be combined; indeed some narratives combine all three. Here is an example of a recent research call on this theme:

Growing resource scarcity is threatening to undermine advances made in development. [Various reports] all highlight resource scarcity and an impending squeeze on the availability of food, water, land, energy and minerals as major policy issues. Ensuring sustainable access to land, water and energy is critical to addressing global poverty and sustaining pro-poor growth. Vulnerabilities to increasing scarcity of resources vary widely with geography, wealth, political, social and human capital.... increasing resource scarcities might also provide crucial sustainable growth and development opportunities. For example, it [sic] will catalyse new markets and innovation resulting in new products and it may change the comparative advantage across countries. (ESRC/DFID, 2011: 4)

Here notions of absolute scarcity ('an impending squeeze') are combined with relative scarcity (changing 'the comparative advantage') and political scarcity (differentiated 'access' and 'vulnerabilities').

In the following sections we ask how contemporary narratives in the policy literature match up to these 'ideal type' frames and their combinations. How do they help us understand – or indeed misunderstand – the global resource grab? And what contrasting narratives are at play? Through our analysis we identify, very broadly, a dominant, mainstream set of narratives that often adopt a combination of absolute and relative scarcity framings. However, while their problem framings are often similar,

the solutions offered diverge – some with a more political dimension, others focusing on technology, investment and commercial opportunity. Not surprisingly this reflects political and commercial interests, with scarcity narratives being deployed towards particular ends.

In a later section, we identify what has been excluded from these dominant narratives. Alternative explanations either frame the phenomenon of resource scarcity in more political terms or do not use concepts of scarcity at all in their narratives of environmental and social problems related to land, food and farming. They suggest very different solutions from those found in the mainstream sources.

### **Narratives of scarcity: An exploration of the recent policy sources**

In our analysis, we understand the term 'narrative' as a story with a beginning (defining the problem and specifying its causes), a middle (elaborating its importance and garnering the evidence) and an ending (presenting a solution) (cf. Keeley and Scoones 2003; Roe 1991). Such narratives offer simple, and simplified, perspectives on the world that link cause with effect and problem with solution, and so frame the way policy or business is talked about and enacted.

The power of narratives is often in their simplicity, their invocation of metaphors and images, their sense of urgency, and so their political appeal and their ability to enlist followers. Narratives are inevitably constructed in a social and a political milieu by coalitions of actors with interests and positions (cf. Forsyth 2003; Keeley and Scoones 2003; Roe 1994; 1991). Narrative analysis thus seeks to define some clear storylines and compare them, tracing the actors who tell the stories, and the interests that are associated with them.

What follows is an attempt to draw out some of main features of the dominant narratives populating the



discussion of land, agriculture and resources, especially in Africa, in the period since 2007 from across the 134 sources analysed. These are what we term here the 'mainstream narratives', as defined above. While, as we show, these are not uniform, there are some important common features, both in the narrative form and in the devices that are deployed in their constructions, with all adopting some elements of the absolute and relative framings of scarcity and often avoiding a political interpretation, even though solutions offered by some actors do touch on issues of access and control, as we show below. Later in the paper we turn to 'alternative narratives' that take a different position, framing the problem of scarcity in more political terms. In the following sections, the mainstream narratives are presented as a sequenced storyline, starting with 'the challenge', the underlying problem framing.

### The challenge

Narratives start with the challenge: the essence of the problem. The growth of the human population to 9 billion by 2050 is a common refrain, as is the extent of land degradation and an assumed imbalance between supply and demand. Thus the International Fund for Agricultural Development (IFAD), drawing on work by FAO, argues:

The projected growth in the world's population to 9.2 billion by 2050 adds an extra challenge for food security. Burgeoning populations mean more demand for food, water and land at a time when the natural resource base for agriculture is being degraded, large areas of farmland are being diverted from food crop production, and climate change threatens to further reduce agriculturally viable land. (IFAD, 2012: 1)

A similar argument frames the International Assessment for Agricultural Science and Technology for Development's (IAASTD) report:

In the future, feeding an increasing population will remain a challenge, particularly as per capita land availability decreases and soil degradation continues. (IAASTD, 2009: 280)

Similarly, the influential UK Foresight report (overseen by John Beddington) argued strongly that population pressure would result in increasing hunger, requiring urgent action:

Today, there are an estimated 925 million people who suffer from hunger and perhaps an additional billion who, while having access to sufficient macronutrients, suffer from the 'hidden hunger' of not having enough vitamins and minerals. (Foresight, 2011: 24)

In this storyline, population growth is leading to resource depletion and degradation, made worse by climate change, and ultimately this was resulting in hunger and poverty, and poor, rural people, perhaps especially women, were suffering.

### Why it's important and urgent

An additional element of the mainstream scarcity narratives is the claim that this situation is important and action is urgent, and that there is only a small window of time to respond and create the resilience to weather the storm. A confluence of factors is resulting in potential catastrophe requiring urgent responses. For example:

The global food system will experience an unprecedented confluence of pressures over the next 40 years.... This is a unique time in history – decisions made now and over the next few decades will disproportionately influence the future. (Foresight, 2011: 9, 13)

The sense of limits, tipping points, irreversibility and boundaries being reached is repeatedly emphasised. FAO for example in its 2011 review of *The State of the World's Land and Water Resources for Food and Agriculture* argued:

In some... areas, the accumulation of environmental impacts in key land and water systems has now reached the point where production and livelihoods are compromised. (FAO, 2011a: 4)

Business as usual, with or without some marginal adjustments, will not be enough. (FAO, 2011c: 37)

The CEO of Unilever, Paul Polman, emphasises 'natural limits':

Food security has to be seen as part of the wider question of how we can live sustainably within the natural limits of the planet. In the coming two decades the nations of the world will have to find ways of securing adequate supplies of food, fibre, fodder and fuel from the finite pool of land, water and soil that is available to us.... We are already consuming natural resources at a rate faster than the planet's capacity to replenish them. (Polman, 2011)

Some offer distinctly Malthusian overtones. In a 2012 newsletter to investors, Jeremy Grantham, the co-founder of the investment management firm GMO, said:

We are five years into a severe global food crisis that is very unlikely to go away. It will threaten poor countries with increased malnutrition and starvation and even collapse. Resource squabbles and waves of food-induced migration will threaten global stability and global growth. This threat is badly underestimated by almost everybody and all institutions with the possible exception of some military establishments.... We simply cannot have exponential growth on a finite planet. (Grantham, 2012: 2, 14)

The imperative for action, and the justification for their business contributions, is emphasised by large agribusiness. Two of the largest, Syngenta and Cargill, offer this on their websites:

Over the next 20 years, we will need to feed another 1.8 billion people. Calorie demand will grow even faster, as diets in some countries increasingly shifts to meat. In much of the world, agricultural land is limited and water scarce. So tomorrow's growers will have to produce much more food and animal feed with today's limited natural resources. (Syngenta, 2013b: paras. 5-6)

By 2050, an anticipated 70 percent boost in global food production will be necessary to meet the world's growing demand for food. To protect the environment, most of the increase in food production will need to come from increased yields and productivity rather than from the use of additional land. (Cargill, 2013: para. 4)

Thus, with different emphases and intentions in mind, nearly all commentators adopt some form of 'scarcity' narrative, emphasising how crisis are imminent, storms are in the offing, boundaries are being transgressed and urgent action (of quite different sorts, as we will see) is required. Sometimes, as in most of the African commentaries, this is presented in more local or regional terms; in other cases it is presented as a more global challenge.

**But, there's a way out: technical/institutional solutions are possible**

Nearly all documents argue that there is a way out; that doom, gloom and disaster are not inevitable, as long as something is done. Quite what this is, however, is rather more contested than the problem framing. What we see in the mainstream policy, donor and agribusiness material is an overwhelming reliance on technology to intensify agricultural production of food and animal feed and thereby mitigate or escape the limits imposed by natural resource scarcity and keep ahead of population growth. The faith in resource-augmenting technology is a response to scarcity, encapsulated in this quote from NEPAD's introduction to the African Union's Comprehensive African Agricultural Development Programme (CAADP):

If used in proper association with suitable technologies and related factors such as labour and investment, [land and water] have the capacity to enable global agricultural production to continue outpacing the growing demand despite the declining per capita availability of land and water resources. (NEPAD, 2003:23)

In justifying its argument for agricultural investment and transformation, the World Bank in its 2008 World Development Report on agriculture argues that there has to be a technical response to the 'closing land frontier'.

With the closing of the land frontier across much of the developing world and continuing strong demographic pressures, gains in land productivity

– and sustainable land management – will become fundamental. (World Bank, 2007: 227)

Many go beyond mere technological optimism to call for an accompanying improvement in incentives, institutions and infrastructure. Such opportunities, however, cannot be grasped without investment, argue FAO, the World Bank and many others. It is the lack of investment in productivity-enhancing agriculture that has been part of the problem, producing the current scarcities and associated crises:

Lack of investment in agriculture over decades has meant continuing low productivity and stagnant production in many developing countries, especially in sub-Saharan Africa. Lack of investment has been identified as an underlying cause of the recent food crisis and the difficulties developing countries encountered in dealing with it. (FAO, 2010a: 2)

The World Bank's 2008 World Development Report adopts the language of Boserup, Hayami, Ruttan, Binswanger, Lipton and others:

... when suitable technologies and institutions are available, however, population growth can lead to their adoption and sustain improvements in resource conditions and yields. Because many natural resource management technologies are labour-intensive (for example, terracing or contouring land, building irrigation structures), population growth can actually assist their uptake because it lowers labor costs. (World Bank, 2007: 182)

And from further down H Street in Washington, IFPRI makes a similar argument:

Investments in agriculture – especially in agricultural research and innovation – have been shown to play an especially important role in raising agricultural productivity, overcoming constraints posed by increasingly scarce resources such as land and water, and improving economic efficiency in the use of fertilizers and pesticides. (IFPRI, 2013:7)

Just like the Green Revolution in Asia, the scarcity and productivity problem can be 'fixed', it is argued, by a combination of innovation, investment, incentives, infrastructure and institutions. But exactly what combination of these is required and with what focus is disputed, as discussed further below.

**And, yes of course, access, not just availability, matters**

As part of this dominant narrative, there is an obligatory nod towards Amartya Sen and questions of entitlement and access. Here a political dimension is included – not

in the underlying framing of the problem, but in the scope of the solutions. So for example, the World Bank and the former head of the UN World Food Programme note:

Adequate global supplies do not mean that countries or households have enough food—purchasing power matters more than availability. (World Bank, 2007: 50)

In 2008, there was enough food for everyone to eat in the world, but how much of that food is actually traded? (Sheeran, quoted in Hotter 2012)

### **But quickly back to production imperatives....**

However, while access and distribution are acknowledged by some as important for food security, most mainstream scarcity narratives return quite quickly to the imperatives of increasing aggregate *production* as the main solution. A recurrent metaphor in this element of the overall narrative is the idea of a ‘gap’ between the potential level of agricultural production and the actual yields achieved by farmers. This is seen to be particularly large in Africa. The work of Günther Fischer, Mahendra Shah and colleagues at the International Institute of Applied Systems Analysis (IIASA) in Austria has been especially influential, being cited repeatedly:

If all current land and water were managed optimally, output could double in the regions where the yield gap is less than 50 percent. (FAO, 2011a: 35, citing Fischer et al. 2010)<sup>5</sup>

Many developing regions ... have large gaps relative to their potential. In sub-Saharan Africa, for example, crop yields reached only about 27 percent of their economic potential in 2005. (FAO, 2012a: 105)

The gap between actual and potential is largest in parts of sub-Saharan Africa.... Several African countries ... have yields that are at around 20 percent of potential. (FAO, 2011a: 139)

Two economists from the International Finance Corporation call for ‘massive’ amounts of investment in agriculture to meet the scarcity challenge. They argue:

You’ve probably already heard the Malthusian projections targeting our planet’s finite capacity to feed a growing population – projected to reach 9 billion by 2050 – in the face of dwindling resources of suitable land and water in productive climates ... Most experts agree that if we continue to use today’s techniques and approaches to grow food, the math in the global agriculture equation won’t add up to a sustainable future. But by working together, the public and private sectors can help deliver abundant, affordable, and nutritious food for all. (Vegarra and Moses, 2012: 6)

The African Development Bank is equally assertive on the need for technical solutions:

Clearly, raising agricultural productivity including that of smallholder farmers is a key component in reducing poverty and hunger in Africa ... In the long term, enhancing agricultural productivity together with mitigating and adapting to climate changes should be the primary focus of food security initiatives. (Salami et al., 2011: 3)

This is reminiscent of the standard fertilisers-plus-seeds Green Revolution thinking, but a twist in the argument has been a call for what is termed ‘sustainable intensification’. The UK Foresight report explains:

Sustainable intensification means simultaneously raising yields, increasing the efficiency with which inputs are used and reducing the negative environmental effects of food production. (Foresight, 2011: 35)

This is a theme heavily emphasised by the IAASTD:

The main challenge of [agricultural knowledge, science and technology] is to increase the productivity of agriculture in a sustainable manner. (IAASTD, 2008: 4)

But quite what ‘sustainable intensification’ actually means is strongly contested, with everything from high-tech GMOs to ‘conservation agriculture’ to local farmer solutions being offered as part of the package. Environmental sustainability concerns are ubiquitous, but sometimes come across as lip service.

Thus, while everyone argues for investment and most argue that this needs to be focused on smallholders, exactly what is ‘appropriate’, ‘sustainable’ and ‘intensive’ is questioned. While widely agreed narratives of imbalanced supply and demand frame the problem, the directions of future pathways of technology choice and development more broadly are much more open to debate, and reflect particular interests. Not surprisingly, agribusiness companies argue for their own technologies, while many researchers remain sceptical. And many in the international agencies, under labels such as ‘sustainable intensification’, hedge their bets and avoid the more political discussions about the direction of technological development and its distributional consequences.

Although it is widely agreed that increasing productivity on existing farms should be the main solution to any supply-demand imbalance, several organisations see a lesser role for agricultural expansion where cultivable land is available. Again drawing on research from sources such as IIASA and FAOSTAT, authors suggest that certain parts of the world, particularly in sub-Saharan Africa, contain land that could be put into more productive use. The argument is presented most strongly by the World Bank, whose analysts have suggested evidence in a suite of reports for the existence

of abundant, underused farmland in Africa. The message is picked up by agribusiness and private investors and reproduced in their corporate literature in a simplified, unproblematic form. For example:

It is estimated that over 60% of the world's available and unexploited cropland is in SSA [sub-Saharan Africa], compared to 31% in Latin America and 8% in all other regions. (Standard Bank, 2011: 8)

Similarly optimistic statements have been made concerning water, such as this claim by the South Africa-based agri-processing company Tongaat Hulett:

As the pressure on the world's scarce fresh water resources increases, Sub-Saharan Africa, excluding South Africa, with less than 10 percent of its existing available water resources being utilised, is in a position to make more efficient use of this resource in order to increase agricultural production. (Tongaat Hulett, 2009: 10)

Yet much of the material from policymakers and analysts from Africa stresses the extent of water scarcity, soil degradation and declining per-capita land availability across the region. For example, the African Union's *Framework and Guidelines on Land Policy in Africa* states that:

In spite of extensive dependence on farming [in Africa], not much of the continent's land is arable or potentially arable. Large parts of the continent are deserts or semi-arid, and/or facing ecological damage. (AU, AfDB and UNECA, 2009: 5)

The African Development Bank similarly depicts a problem of soil depletion and water shortage:

The soils of the continent's vast land surface are typically old and leached; 16% of the surface land is classified as very low in nutrients as opposed to just 4% in Asia.... In the light of increased water shortages, drought, desertification, and worsening soil conditions, by the year 2025, almost half of Africans will be living in areas where water is scarce. (AfDB, 2010: 4)

Scarcity is depicted by the AU and its partner institutions as being produced in part by rising demand:

Although fresh-water demand for a variety of uses ... is increasing exponentially [in Africa], the rate of regeneration is well below the continent's future needs. (AU, AfDB and UNECA, 2009: 19)

### **There can be a shared opportunity out of the crisis**

A common theme in the international material is the sense that there is a 'shared', 'global' crisis, and that solutions must be forged through 'partnerships' and 'inclusive' approaches to development. Some authors give the impression that there are real opportunities to

be had, if collaborative efforts can be forged, whereby resources can be profited from due to the demands by others in another part of the world. The former head of the WFP, Josette Sheeran, notes:

You can look at hunger as a Malthusian nightmare, or you can look it as a tremendous opportunity because everyone has to eat. (Sheeran, quoted in Hotter 2012)

And similarly the EU report:

... competing claims [for land] place a high value on natural resources. This presents real opportunities for economic growth in countries endowed with vast natural resources, and in particular those with a large productivity gap – which is the case of many of the poorer countries, particularly in sub-Saharan Africa. (EU, 2012: 88)

But some are more cautious. The authors of FAO's *The State of the World's Land and Water Resources for Food and Agriculture* write, for example:

The distribution of land and water resources does not favour those countries that need to produce more [food] in the future: the average availability of cultivated land per capita in low-income countries is less than half that of high-income countries, and the suitability of cultivated land for cropping is generally lower. (FAO, 2011a: xxiii)

In the context of large-scale land deals the 'development opportunity' or 'development disaster' contrast (cf. Cotula et al. 2009) is often highlighted. The EU argues:

While land deals give rise to concerns they also provide opportunities. Investors may introduce new technologies and skills, expedite the development of contextualised production systems with higher productivity, and spark innovation. (EU, 2012: 5)

Trade-offs between different scenarios are also emphasised by the World Bank:

Localized environmental damage caused by intensive commercial agriculture may be acceptable if the alternative would be even greater environmental damage occurring elsewhere as the result of expansion of low-productivity agriculture into highly vulnerable areas. (World Bank, 2009: 11)

And the FAO's Committee on Commodity Problems observes:

The key issue is the extent to which benefits from foreign investments spill over into the domestic sector in a synergistic and catalytic relationship including with existing smallholder production

systems and other value chain actors such as input suppliers. (FAO, 2010a: 5)

### **And there are investment opportunities too**

The investment opportunities are, not surprisingly, emphasised by private sector players. Here a standard demand-supply argument is often deployed, with land being projected as the 'new gold' (Brown, quoted in Buckholtz and Delay 2012), and a safe, secure asset class with good investment returns:

The appeal of agricultural assets is predicated on long-term projections of a global supply and demand imbalance for food. World population is expected to grow approximately 35% by 2050. However, by 2050 demand for food is expected to have grown by 70% ... Basic macro-economic theory dictates that when demand exceeds supply, prices will rise. The global food imbalance underpins the trend of rising prices both for agricultural produce and for land. (Campanale, 2012: 135)

Agcapita believes farmland is a safe investment, that supply is shrinking and that unprecedented demand for 'food, feed and fuel' will continue to move crop prices higher over the long-term. (Agcapita, 2013)

We expect strong investment performance to continue across the world as fundamentals of food production, security and [demand for] renewable energy all impact on the finite area of global farmland. (InvestAg Savills, 2011: 4)

Investment in farmland is driven by long-term trends such as growing consumption of food and biofuels in a context of limited availability of arable land, water and energy: investors are interested in securing access to food or other agricultural products, access to water and financial returns in an alternative asset class. (Schaffnit-Chatterjee, 2012: 1 from Deutsche Bank Research)

Africa is singled out as a particularly promising investment destination, and a source for 'feeding the world':

Africa has a tremendous future in terms of agriculture. Africa could feed much of the world. (CEO of Aslan Global Management, quoted in Charles 2012a)

Looking at global agriculture from a long-term perspective it seems that Africa has a huge opportunity to feed both itself and the world in the coming decades. (GreenWorld, 2013)

Some of the thinking behind these statements is revealed in a 2011 research report from Rabobank, a

significant financier of international agricultural projects. This argues that corporations must re-think their commodity sourcing strategies in this new and unprecedented era of scarcity. Because the world's farmers have become squeezed by low producer prices on one side and high input prices on the other, they are unlikely to be able to respond to price rises by increasing production. Therefore, in order to secure supply of food and other agri-commodities, corporations are investing in land, working directly with farmers, setting up greenfield production and other operations along the supply chain. Actors involved in large-scale farmland acquisition 'all recognise the over-arching rationale that scarcity will become an increasingly regular feature of agricultural commodity markets in the future,' claim the authors (Rabobank International 2011: 18).

### **But what is the 'right' kind of investment?**

It is no surprise that agribusinesses, financiers and other investors emphasise opportunity and potential, but what type of investment is appropriate? This is much more of a debate.

Several bodies in the international development mainstream, such as the Committee on Commodity Problems, suggest that low levels of public funding and the challenges of food and resource scarcity justify a larger role for FDI. FAO hedges on the merits of foreign investment, arguing that it is not whether but how such investments play out that is important:

The question ... is not *whether* foreign direct investment should contribute to meeting investment needs but *how* its impact can be optimized to maximize the benefits and to minimize the inherent risks for all involved. (FAO, 2010a: 2)

There are some – mainly agribusinesses, investors and some international finance institutions – who unequivocally argue for large-scale commercial farming operations (IFPRI 2013; AU, AfDB and UNECA 2012; EU 2012; World Bank 2011; WEF 2010; Wheaton and Kiernon 2010). Only such operations, they argue, can reap the scale advantages, attract the financing and generate the markets. The Chairman of one high-profile investor in Africa, Chayton Capital, maintains:

It is very difficult, if you look at the African agricultural market, to find a solution for Africa itself that does not involve some form of build-out of commercial farming. And commercial farming is capital-intensive, and you need to attract foreign capital to build out large-scale commercial farming. (Crowder, 2011, from Chayton Capital)

Aware of the critiques of large-scale foreign land deals, agribusinesses emphasise the potential mutual advantages of mixing large- and small-scale systems. For example:

Many areas in Africa require large-scale investments to shift the agricultural landscape and transform subsistence farming into viable businesses. (Yara International, 2013: para. 4)

Claims are made for synergies between big players in the global arena and small players in the local arena, eliding real tensions between these multi-scale operations and operators.

Large commercial players are critical to stabilizing global supply and can apply sustainable practices at scale. Smallholders, who currently lack access to critical inputs and markets, will be vital to meeting local nutritional and economic needs. (WEF, 2010: 13)

Financiers see opportunities too. Phatisa, a private equity fund manager which runs the African Agriculture Fund, aims:

To build regional platform businesses that increase capacity through commercial and smallholder schemes, seeking to re-integrate the food production value chain to enhance domestic and regional food security. (Phatisa, 2013: 'African Agriculture Fund's investment criteria').

While Standard Bank again emphasises mutual advantages:

Land leasing deals, if managed well (which is generally not yet the case) have the potential to supply infrastructure, create employment, increase public revenues, and introduce new technologies and skills to local farmers in Africa.... demand for upstream products linked to the broader agribusiness sector will also result, creating new economic opportunities for a range of African and international enterprises. (Standard Bank, 2011: 11, 12)

The argument is that such large-scale investments will have spin-off benefits for smallholders, especially if incorporated into wider value chains, as contractors linked to larger commercial concerns. Here narratives claim the benefits of 'partnerships' and 'win-win' solutions.

Another strand of the mainstream narratives, found especially in the material of IFAD, the Bill and Melinda Gates Foundation (BMGF) and African initiatives such as Forum for Agricultural Research in Africa (FARA) and AGRA, places more emphasis on small-scale farming, the focus here being a two-pronged strategy of increasing smallholder farmers' productivity and making them more commercial. Contract farming is widely suggested as an ideal model. FAO again:

In such models, local farmers would provide land, labour and local knowledge, while corporate investors would provide capital, access to markets and technology and specialized knowledge.... They

would allow smallholders to make productivity-enhancing investment on their own farms. (FAO, 2012a: 69)

The African Development Bank envisages:

A more commercially-oriented agriculture with improved access to markets and agro-industry. [The transformation] involves a greater reliance on input and output markets and increased integration of agriculture with other sectors of the domestic and international economies. (AfDB, 2013)

The notion of integrating smallholder farmers into value chains is a key concept, with numerous sources highlighting increased agro-processing and value addition by African farmers and firms (AU AfDB and UNECA 2012; AfDB 2010; SADC 2004). African agriculture is often depicted as stagnant, underproductive and a cause of land degradation, in need of revival through integration with large-scale, commercial operations.

#### **4. Constructing scarcity: Knowledge politics and practices**

Thus these mainstream narratives take a particular form, starting with a definition of the problem – 'the challenge' – and ending with proposals for technical, institutional and economic interventions. They are largely framed by absolute and relative interpretations of scarcity, highlighting resource limits but also the opportunities for innovation and investment. Some consider issues of access, but do not highlight a political framing of scarcity. The differences between narratives can be attributed to institutional, political and commercial positions and interests – which in turn are shaped by these narratives – although in many policy documents, especially from the larger organisations, there are clearly a number of competing internal positions, resulting in hedges, compromises and fudges.

Digging a bit deeper, how precisely is scarcity framed, and how does this framing suggest different solutions? What processes of framing occur, and what forms of expertise are enlisted? In the next section we explore the processes involved in constructing narratives: the influence of striking 'facts' (or 'factoids'), the role of 'artefacts' (including maps and models) and the deployment of particular forms of expertise, with certain disciplinary framings. These knowledge practices, and their associated politics, draw on, both implicitly and explicitly, the three broad framings of scarcity we introduced above. In this section, through a series of six themes drawn from our search of sources, we explore this uneven and complex process of construction, looking also at the politics of what is excluded, and how

and through what practices and politics of narrative construction.

### Iconic figures

Narratives are replete with iconic figures – or what some term ‘killer facts’ (Green 2012, cited in Oya 2013). These are numbers that crystallise the debate – suggesting, for example, rapid change, massive extent or growing challenge. They have, as a result, huge rhetorical power, of use in media statements, campaign documents or policy-oriented research. They are usually large, round numbers that can be remembered and repeated. Their provenance is often uncertain, and tracing their origins can be a taxing undertaking, often leading to dead ends, exaggerations, out-of-context uses and circular referencing (Locher and Sulle 2013; Edelman 2013; Scoones et al. 2013).

Of the iconic figures that are repeated continuously in narratives on ‘resource grabs’, two (and their associated variants) stand out: the human population reaching 9 billion by 2050, and over 60 percent of Africa’s land being degraded. These figures are cited in recent documents of the AfDB and two agribusiness companies, SIFCA and AFGRI:

By the year 2050 the world’s population is expected to reach 9 billion people and Africa is in a unique position to address world food security. It is a continent with rich agricultural land and abundant opportunities to focus investments into agriculture capacity in order to assist in meeting future world food needs. (AFGRI, 2013: para. 1)

Every day sees 220,000 new mouths to feed, meaning 80 million additional people a year. Global population today is about 7 billion. By 2050, it will probably balloon up to 9.3 billion. According to FAO, ‘the world must double food production by 2050’. But already in 2011, some 950 million people experienced hunger. During the same period, 5 million babies died from hunger. Can we produce enough food for all? Will we run out of land? (SIFCA, 2012: 10)

An estimated 65% of sub-Saharan Africa’s agricultural land is degraded because of water and soil erosion, and chemical degradation. (AfDB, 2010: 4)

Any quick Google search will uncover hundreds of other examples, from every type of organisation. These essentially Malthusian framings require such figures, and often are linked with statistics on the extent and location of land grabs, highlighting that these are large (sometimes massive) and focused in Africa.<sup>6</sup>

### Crisis and urgency

These figures add to the argument that there is a ‘perfect storm’ brewing, that ‘planetary boundaries’ are being transgressed and that there is a growing resource

crisis, exacerbated by land degradation, which is precipitating a land grab, as well as displacements, conflicts and ‘environmental refugees’ (Homer-Dixon 2010). Developing a sense of urgency, danger, looming catastrophe and impending doom is an essential feature of these narratives. Here the crisis and Malthusian limits dimension is often central.

### Representations of abundance, emptiness and under-use

In justifying the need to invest in land, particularly in large-scale land deals, some advocates use particular representations of land and its use. Relative to the growing shortage of land globally, land in target investment areas is described as abundant: empty, idle, under-utilised, wastelands (Makki and Geisler 2011; Nalepa and Bauer 2010). Highly influential World Bank studies argue for investments in areas where land is ‘available’ and has high ‘potential’. See for example:

Areas [in sub-Saharan Africa] of low population density with good agricultural potential represent untapped reserves for continued expansion of area. (World Bank, 2007: 231)

What is meant by ‘available’ and ‘potential’ is highly disputed (see below), yet the argument has taken hold.

As regions and countries competed for investment, the idea of ‘untapped potential’ becomes significant. During a visit to the Sichuan government in 2011, the President of the Economic Community of West African States (ECOWAS) told potential Chinese investors of well-watered arable land in West Africa:

ECOWAS governments are willing to promote collaborations in this area to unlock the huge untapped potentials and are hereby extending an invitation to Chinese private sector investors to invest in commercial farming and agro-processing. (ECOWAS, 2011a: 9)

CAADP and UNECA agree:

... there is substantial untapped potential for the development of the continent’s water and land resources for increasing agricultural production. (NEPAD, 2003: 24)

The continent is endowed with many natural resources, including plentiful land and fertile soils, oil and minerals. (UNECA, 2013: 8)

While this is the overriding narrative, again based on figures of often unknown origin, there are qualifications offered by some. For example, FAO, IFPRI, the World Bank and others are careful to note that some ‘available’ land may be used by poor people or pastoralists, be degraded, or require massive investment to make it productive.

Nevertheless, the overriding dependence on an increase in production as the solution to rising global

demand, and the predominance of instrumentalist narratives that treat farmland as a resource to be used with maximum efficiency, easily leads to the conclusion that if the need for food or fuel is great enough, then it is justifiable taking over the land and increasing production on it, compensating any existing users for their loss if necessary. Several sources advocate the introduction of land markets in sub-Saharan Africa to transfer land to more efficient users (see for example IFPRI 2012: 56; AU, AfDB and UNECA 2012: 7).

Recent commercial developments in Africa such as agricultural growth corridors are predicated on the vision of developing under-utilised farmland (Yara International 2013). In more densely populated areas, World Bank analysts would like 'entrepreneurial farmers to acquire unused land ... allowing land to change hands over time to those who can use it most productively' (World Bank 2009: 16). This attitude is exemplified by a quote from the CEO of Emergent Asset Management, who told a journalist in 2010, 'We are not taking land away. We buy or lease operational farms that are undercapitalised, or we start projects on land that is fallow to produce food which in itself creates many local jobs' (Payne, quoted in Whitby 2010: 44).

### **Parables of success**

Especially if prefaced with a picture of doom and gloom, a success story is always important, to show the way towards a more happy ending. Parables of success are repeated endlessly (Sumberg and Thompson 2012). As with their biblical equivalents, they may not be strictly true, but have an important message.

The Asian Green Revolution is used as the benchmark, with an emphasis on investment in irrigation, fertiliser, seeds and other technical solutions to offset impending or actual scarcities through intensification. Since the establishment of the Gates-funded Alliance for a Green Revolution in Africa (AGRA), previously headed by former UN Secretary General Kofi Annan, the call for an African Green Revolution has heightened (IFPRI 2012; World Bank 2011; WEF 2010). Proponents of this position include Cargill, which argues that to protect the environment, most of the increase in food production will need to come from increased yields and productivity rather than from the use of additional land (Cargill 2013). Of course, a strategy based on input-intensive agriculture also suits Cargill's interests.

However, other advocates of a 'new' Green Revolution for Africa see large-scale investments as essential. Paul Collier for example argued provocatively in *Foreign Affairs* that small-scale agricultural solutions for Africa were 'romantic' nonsense, and only a large-scale, technology-backed solution was sensible (Collier 2008). He, like others, sees genetically-modified crops as part of the answer. Along with the large agribusiness companies such as Monsanto, political science professor Robert Paarlberg has been particularly vocal on this subject. He argues, 'Africa is failing to keep up with population growth not because it has exhausted its

potential but instead because too little has been invested in developing that potential' (Paarlberg 2010: 15), and the failure of Africa to take up GM crops – due to European lobby group pressure, he claims – is part of the problem. The successes of other countries, including India, China and Argentina, are cited as a way forward, deploying again the statistics from the industry-backed group ISAAA showing massive expansion of GM crops.

Most of these Green Revolution success stories – whether inorganic fertiliser application, large-scale irrigation or GM crops – have been much disputed, including by mainstream players. However the parables, with their associated graphs and statistics, have a power in narratives, and usually become better and more convincing through endless repetition.

Another route to appropriating success, and inserting this into narratives, is to combine different words. These conjugal terminologies – sustainable intensification, responsible investment, inclusive growth and so on – add an indisputably positive spin to a controversial area. This helps to subdue, neutralise and particularly depoliticise debates about choices and consequences.

A similar device is the juxtaposition of optimistic statements with caveats, so often part of the narrative form. Some of the international policy material focused on Africa expresses concern over potential land-rights abuses and the level of public spending that have supported large-scale ventures in the past, but investors could easily pick up on more positive messages from elsewhere in the same report about the abundance of land and the scope for expansion, and so ignore the plentiful caveats. Here is a 'caveat sandwich' from the World Bank about water availability:

Sub-Saharan Africa and Latin America have large untapped water resources for agriculture. But even in Sub-Saharan Africa, almost a quarter of the population live in water-stressed countries, and the share is rising. Even so, there now are many opportunities for economically investing in irrigation in Sub-Saharan Africa ... and the irrigated area there is projected to double by 2030. (World Bank 2007: 64)

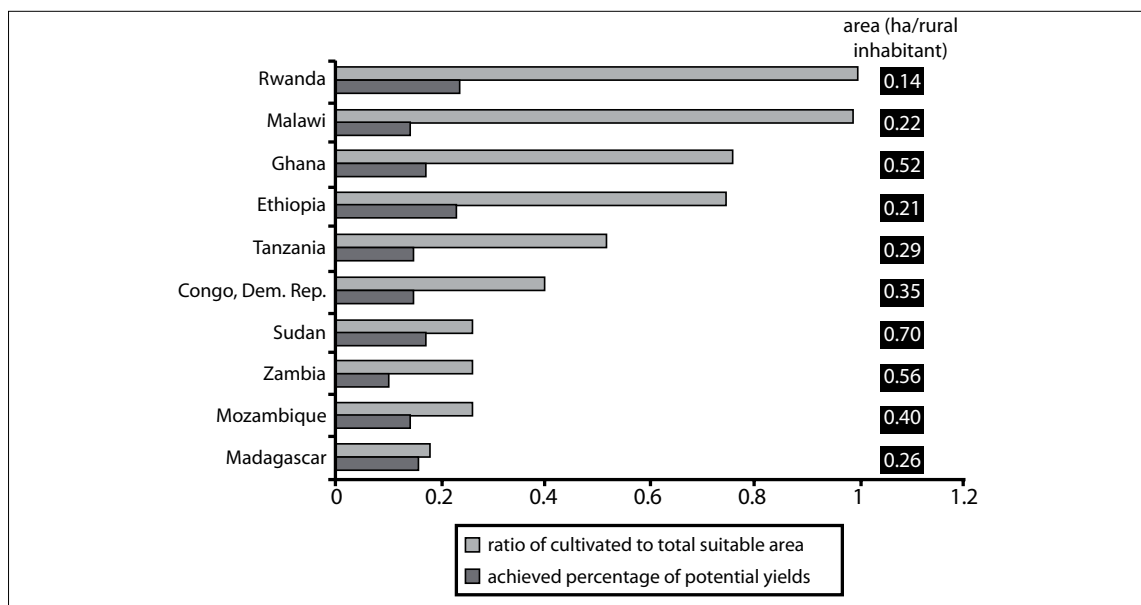
The pattern of giving an optimistic statement followed by a caveat is a common stylistic device in World Bank reports (Oya 2009, Li 2011). Because the caveats come after the headline figures, the more casual reader may ignore the qualification and keep to the core message, driving home the parable of success and potential.

### **Methods and models**

Some artefacts and practices which underlie these claims are particularly influential in constructing policy narratives. The gaze from space through satellite imagery has been massively influential in constructing visions of 'empty', 'available' land. When combined with the extrapolation of potential from research station crop trials to create graphs of yield gaps, the narrative is complete.



**Figure 1. Identifying potential areas of Africa for intensification and extensification**



Source: World Bank 2011: xxxviii, citing Fischer and Shah.

Empty or underutilised space can be filled with productive agriculture, as long as the technologies are applied.

As noted earlier, researchers from IIASA in Austria have been particularly influential in supplying the basic information on land availability, suitability and potential from satellite imagery, and projecting yield gaps in different parts of the world. Figure 1 offers an example.

Modelling the availability of land only on the basis of what can be seen in satellite images is obviously prone to error. Equally, developing yield models based on potentials rather than likely levels, given the differences in resource quality, infrastructure and technology attributes and so on, adds another level of uncertainty. Yet these models, particularly when they appear in multi-coloured maps or dramatic graphics, have enormous power, and the uncertainties and qualifications are buried in the footnotes.

Scarcities (and abundances) are thus constructed. Fine (2010: 88) argues that ultimately 'scarcity' is 'an illegitimate legitimizing device for the methodology and technical apparatus of mainstream economics' involving assumptions about aggregated individual behaviour, efficiency and equilibrium. These unchallenged assumptions, embedded in the methodology of the discipline of economics, construct narratives of scarcity around what are assumed to be unflinching laws or rules of individual rational behaviour, resulting in ideas centred on comparative advantage, technical efficiency and general equilibrium. Despite a clear acceptance that markets are not perfect and that information and other asymmetries exist, such assumptions posit a fixed relationship between given ends and scarce means with alternative uses – even though such relationships may not be upheld in the real world.

Models are of course only constructs which may or may not have some analytical utility in thinking about more complex phenomena. But when their assumptions

are flawed – whether in terms of the behaviour of individuals in perfect market or the availability and potential of land – and the 'technical apparatus' – whether the assumptions of neoclassical economics or satellite imagery analysis – is not questioned, they become potentially dangerous and misleading, obscuring other insights. As the Committee on Food Security's High Level Panel report on land concluded:

The satellite and aerial imagery used in bio-physical surveys is blind to the rights and institutions that govern how land is actually used on the ground. (HLPE, 2011: 9)

### Comparative opportunity

One result of the 'technical apparatus' of scarcity-centred economics is the idea of comparative advantage. In a global economic setting, this is seen in terms of the relative opportunities for investment and return from different regions and countries. Africa's potential is much hyped, particularly in relation to land and water constrained countries wishing to meet their food, feed or fuel requirements in the context of growing economies, increasing urbanisation and changing food demands.

According to the World Bank, success is fuelled by exploiting comparative advantage:

There are many success stories of agriculture as an engine of growth early in the development process and of agriculture as a major force for poverty reduction.... Agriculture is an effective engine for growth for most agriculture-based countries because they need to produce most of their own food, and they are likely to keep a comparative advantage in agriculture at least in the medium term. (World Bank, 2007: 26, 34)

This in turn opens up commercial opportunities for investment:

Experts agree that Sub-Saharan Africa's fairly plentiful endowment of water and land imply that a better policy environment and business climate would create considerable scope to profitably produce bulk commodities. Infrastructure constraints imply that, initially, supply would be limited to domestic and regional markets, worth some US\$50 billion a year, which could then provide a springboard for global exports. (World Bank, 2011: 26)

Free trade in agricultural commodities is seen as a route to addressing global food security:

Trade plays a crucial role in ensuring food security by allowing agricultural commodities to move from places of surplus to places of deficit. (Cargill, 2011: 10)

The argument goes that there is mutual advantage – and profit – to be gained from working together. For example:

We are positive about the role that Africa, with its vast agricultural potential and resources, could play in addressing the growing global demand for food. (Mouton, in Zeder Investments 2012: 6)

Discussing investments in southern Africa, Susan Payne from Emergent Asset Management deploys the language of win-win outcomes:

I've never before been involved in anything as win-win as this ... Governments win, farmers win, our clients win and smallholders win. (Payne, quoted in Whitby 2010: 44)

International public-private initiatives are similarly framed. The New Alliance for Food Security and Nutrition, launched in 2012 by G8 and African leaders, promises to be 'rooted in partnership' and to align 'the commitments of Africa's leadership to drive effective country plans and policies for food security; the commitments of private sector partners to increase investments where the conditions are right; and the commitments of the G-8 to expand Africa's potential for rapid and sustainable agricultural growth' (White House 2012: para. 2).

In this sense, scarcities are relative in a global sense, and given 'vast agricultural potential and resources', Africa can play a role in alleviating them. This requires investment of course, as well as finance to optimise such returns.

## 5. Constructing scarcity: Mainstream land rush narratives

The previous sections have offered a picture of the mainstream narratives at play in contemporary policy discussions and investment decisions, and some insight into the knowledge construction processes that create

them. There is clearly a diversity, and different actors emphasise different elements. But our analysis of the 134 sources shows a remarkable convergence in the core problem definition around a combination of absolute and relative scarcity framings. While the solutions offered vary, the mainstream narratives have important commonalities, and together they have enormous political power and influence on the land investment debate. We therefore have to ask of the mainstream narratives: whose interests are being promoted, whose visions of land and agriculture are being supported, who are the advocates of these positions, what interests are at play, and who gets to decide how resources are used?

While most of the mainstream policy sources do not explicitly endorse the narrative of empty or idle land that is argued to have been used to legitimise large-scale land deals (Geisler 2012; Ariza-Montobbio et al. 2010), they probably encourage it. The data from IIASA (see above) is regularly reproduced by private investors, and helps in identifying locations that are most attractive. Equally, articles like that written by Arezki et al. (2012) for an IMF magazine, that explains how researchers identify areas of unused farmland, perpetuate the message being given to the investment community that there are areas of Latin America and sub-Saharan Africa where impressive productivity gains – and investment returns – can be made.

When it comes to African policy sources, including the African Union's Framework and Guidelines on Land Policy in Africa (AU 2009) and the Alliance for a Green Revolution in Africa's brochure (AGRA 2013), the strong call for an increase in productivity using commercial farm strategies as the main solution to food insecurity and poverty provides clear encouragement to private investors and the private sector to increase their presence in African agriculture. Yet African policy discourse does not so readily accommodate the kind of foreign, export-oriented plantation developments introduced in recent land deals.

Firstly, the sense of abundance is not so prominent as in the international sources. Expansion is portrayed negatively as evidence for the failure of African intensification. Secondly, the Malthusian narrative of African demand for food outstripping supply leaves little room for African states to produce food for other countries. Lastly, production for export out of Africa is not a popular recommendation. At least rhetorically, African policymakers and advisers prioritise food security over foreign exchange.

Agribusinesses are strategically positioning themselves within the global debate around the future of food and farming. The agribusinesses tell the same story of growing supply and demand pressures which can best be relieved by increasing the efficiency of production, land use and trade. Among international investors, a gloomy, somewhat Malthusian scenario provides a compelling reason to invest in farmland in so-called land-abundant countries, although risks are highlighted. Many emphasise working with local farmers through contract farming allied to faith in technological breakthroughs in

agriculture. Yet corporations do not all stand to gain from rising scarcity of natural resources and it is perhaps not a coincidence that Unilever, which must compete to procure food and agricultural commodities, is the loudest voice among the analysed agribusiness sources for new long-term, sustainable solutions that respect ecological limits.

The scarcity discourse, as manufactured by these different actors, thus has a number of functions. It creates a future scenario of increasingly limited resources, yet some opportunities for their exploitation through investment and associated technology. By 'colonising the future' (Hildyard 2010) with dire projections, speculative and often risky investments can be made on the back of demand-supply projections that see the value of land and resources rising inexorably. Scarcity is largely discussed in global terms – with limits being at a planetary level, and food security being a global issue. This projects the debate into a global realm, and sees Africa in relation to its global 'comparative advantage', with relatively more land and opportunities for expanding food production frontiers. This in turn presents a long-term economic incentive for investing in African agriculture and legitimises the large-scale acquisition of land in sub-Saharan Africa for meeting foreign countries' commodity needs, and it allows the firms, being active in African agriculture, to present themselves as part of the global food supply solution.

Across the mainstream actors, the idea of scarcity, limits and resource constraints are repeatedly deployed to justify different solutions. Malthus is very much alive and well in contemporary discourse. However, so is the notion of relative scarcity, and the heightened incentives due to resource scarcity to invest in solutions to overcome or at least alleviate constraints and limits. It is here the narratives diverge. Some advocate technical interventions to boost productivity (from GM crops to 'conservation agriculture'), while others emphasise environmental sustainability. Some suggest subsidies and export restrictions, while others argue for market liberalisation. And some argue for redistributive land reform and increasing smallholder involvement, while others push land consolidation and commercial agriculture. No matter what solution is proposed, all agree that investment is crucial.

## 6. Gaps, silences, alternatives

What is missed out by these mainstream narratives? Are there different ways of looking at the problem, and in doing so might different solutions be offered? Are there other actors advocating alternatives?

There are a number of gaps and silences in the mainstream narratives, as already hinted at. Here we identify three. First is the absence of history. Scarcities are constructed over long periods of time, often through unequal relations of power and resource control. The impacts of colonialism on resource access in Africa is a clear example, with unequal patterns of development

between the 'metropolitan' centre and the 'periphery' creating uneven patterns of development, based on dependency relations. The apparent 'emptiness' of Africa can, in some places, be put down to such political histories, rather than simply environmental factors. The inequalities of production and consumption that create scarcities thus can be seen to reside in historical experiences, rooted in unequal relations. Current levels of high consumption in the global North – and increasingly in the rising East – have emerged through longer histories of development, often involving exploitative relations elsewhere. A trajectory of high resource dependent development is, some would argue, a choice, and one that creates scarcities through relations of power and control that affect others. Current high demand for land – for food, biofuels, feed and so on – can be seen in this light. The historical political economy of scarcity is thus a key factor in determining how problems arise, and narratives must be examined in this light.

Discussions of spatial and temporal scales are a second missing element in mainstream narratives. Most discussions talk in very abstract terms about where scarcities are and over what time frames. Future scenarios are used to paint a picture of the future, with markers such as 2050 being used that are sufficiently far off to avoid any commitment to accurate prediction, but also near enough to show the importance of doing something. By appropriating the future with such scenarios and predictions of collapse, of transgressing boundaries, and of scarcities having an impact on food and livelihoods, those making such predictions gain a moral and quasi-scientific authority over those with alternative visions of the future. Authoritative predictions about demand and supply also have material impacts on markets and prices, and the speculative value of resources. By assuming scarcity, those trading in the commodity clearly stand to gain, as long as the bubble can be maintained. With pension funds, venture capital and other financial instruments being used to shore up land acquisitions, such scarcity narratives have a major influence on markets. Most financial investors have little intimate knowledge of the situation on the ground and so must rely on price signals. As with other commodity markets, this opens opportunities for speculation, price distortion and market instability – a phenomenon seen in land markets already. Mainstream narratives are also pitched at a very general, often global, scale. Patterns of scarcity may be very different across scales, depending less on physical availability but more on patterns of access and resource control. Projections of global scarcity assume certain patterns of access, dependent on markets and trade as well as tenure and resource management. Yet such scarcities experienced by certain consumers may not be experienced by others. Thus problems are experienced in very different ways across space and across scales. A global scarcity narrative may seem absurd in a land-abundant area in Zambia, for example, where the problems are lack of investment and infrastructure for local production and economic development.

The third gap is a consideration of the politics of access. While issues of distribution are hinted at in mainstream

narratives, they are not, as we note earlier, central. Yet scarcity for one person may be abundance for another, and scarcities are indeed constructed through unequal access, across all scales. Scarcity thus is a relational concept, constituted by relationships within society. This requires an assessment of relations between people within a location (between elites and others, or between men and women, for example), between the state and local people, and between nations in different parts of the world. Such relationships are always being negotiated, and are deeply affected by power and politics. An analysis of such political dynamics across scales is thus essential. We need to ask how resources are distributed across different groups within society, through what social relations and institutions, in whose interests and with what material effects. Scarcities thus have class, gender and generational dimensions that have major impacts. How local political elites control and distribute resources will also have an influence. A 'developmental' approach that sees resources deployed for broader gains through a state-guided approach to resource allocation (Kelsall 2013) is very different from one where capture and collusion operates through a neo-patrimonial 'politics of the belly' (Bayart 1993). Understanding the nature of these political dynamics and their intersections with capitalist interests, and the patterns of business and investment, is clearly a critical aspect of understanding how scarcities are created, or avoided, in practice.

Among our review of policy sources we found very few articulations of such alternative perspectives. There were, however, a few from civil society organisations and NGOs which focused on two arguments. The first was a focus on 'food sovereignty' and local economic solutions. This was articulated by AFSA (the Alliance for Food Sovereignty in Africa) and La Via Campesina, for example. This narrative implies that local scarcities can be addressed through local, indigenous economic development; that the wider discourse of scarcity is a political construction, resulting from the inequities of global capitalism; and that local farming solutions need support. For example:

Food is a natural right and agricultural products should not be treated as commodities whose ultimate purpose is the generation of business profits rather than meeting needs of the people. Family and small-scale farmers should be encouraged and strengthened. (Friends of the Earth Europe and Friends of the Earth Africa, 2010: 5)

Commentaries by some civil society organisations also pinpoint political constructions of scarcity and crisis. For example:

[During] the world food crisis ... countries were suddenly thrown into a situation of false scarcity driven by speculation rather than supply and demand (GRAIN, 2008: 9)

The 'marginal lands' concept appears to be just another popular term for this wider strategy of

rural displacement and the industrialisation of global agriculture. (Gaia Foundation et al., 2008: 4)

This often involves a rejection of conventional modernisation-based models for development. For example, the Nyéléni Declaration, signed in 2007 by representatives of NGOs, farmers' organisations and civil society, argues:

We are fighting against ... technologies and practices that undercut our future food producing capacities, damage the environment and put our health at risk. Those include ... the so-called 'old' and 'new' Green Revolutions, and the 'Green Deserts' of industrial bio-fuel monocultures and other plantations. (Nyéléni Declaration, 2007: para. 17)

AFSA challenges the concept of food security being based on exchange and trade:

... the concept of Food Security has been mis-used to justify policies that prioritise only yield and the delivery of food to consumers by any means. It has become divorced from any consideration of how that food is produced and by whom. It is mis-used to justify and encourage the industrialisation of agriculture, food aid, the use of genetically modified seeds, the shifting of production from diverse crops for local markets to monocultures for export, and the liberalisation of markets where small producers are put out of business by subsidised imports. (AFSA, 2011: 3)

These positions also highlight the relationship between scarcity, investment and resource grabs and deeper structural patterns of poverty, hunger and inequality. As Oxfam argues:

The West's biofuels boom is contributing to deeper global poverty and accelerated climate change. (Oxfam, 2008: 5)

A second strand in alternative commentaries is a focus on global inequalities of production and consumption, arguing that scarcity is created through over-consumption in some parts of the world, and imposed on others (e.g. ActionAid 2013). 'Appalling inequities ... plague the food system from farm to fork', argues Oxfam (2011b: 4). Such narratives are generally sceptical of the incentives, investment and innovation responses of the relative scarcity framing, and do not invoke notions of absolute scarcity, suggesting that shortages or degradation of food supplies and natural resources are largely the result of historical political-economic processes. For example, the IF campaign argues that the global food system has 'rigged rules and deep inequalities that allows a few to make billions while leaving hardworking poor farmers – especially women and their children – and vulnerable and ordinary people everywhere to face the highest prices in a generation' (Enough Food For Everyone IF 2013: 12). Whereas the mainstream narratives end with solutions that are overwhelmingly centred on the supply side, notably with increasing food production, this

alternative narrative proposes demand-side changes, including a reduction in resource consumption in rich countries.

Questions are inevitably raised about winners, losers and distributional benefits. The political sources emphasise equity and access to limited resources in their statements, highlighting questions of resource justice. For example: 'The land used to produce EU biofuels in 2008 was enough to feed 127 million people' (Enough Food For Everyone IF 2013: 44).

Underlying these positions is often a commentary on identity and what people want to be, now and into the future. There is an argument about the value of 'traditional' and 'local' approaches, and a rejection of wage labour as an alternative to own farm production or pastoralism. For example:

Many communities would prefer to continue to live as farmers, pastoralists or hunter-gatherers, than to be evicted and banished from their lands, on the elusive promise of meagre compensation or a few seasonal and poorly-paid jobs on agrofuel plantations. (Gaia Foundation et al., 2008: 1)

The campaign group GRAIN claims that after the restructuring that comes with the land deals, 'farmers will never be real farmers again' (GRAIN 2008: 9).

These alternative narratives reject many of the assumptions of the mainstream positions, and do highlight elements of a political scarcity framing. Yet they are also limited. Many do not take account of the history of social and economic relations that construct scarcity. Many also talk about the future in somewhat vague terms, assuming and imposing particular futures based on assumptions about what is right. Scale is addressed, but the emphasis is on the local, rather than the global, and not the politics of the connections between them. Asserting a focus on food sovereignty raises the question of what is 'sovereign', and so what needs to be regulated by policy to ensure food sovereignty, including issues of trade, particularly international exchange, and the scale of farms and firms that are deemed appropriate (Edelman 2013). An often idealised communitarian, populist vision of 'small-scale farmers' opposing 'large-scale capitalists' similarly offers a rather limited perspective on class, gender and generational dynamics at the heart of agrarian struggles. A focus on peasant producers, not workers and labourers, also imposes a particular perspective on the distributional implications of scarcity debates, raising questions about the analytical utility of the food sovereignty argument (Bernstein 2013).

## 7. Conclusion: Rethinking resource scarcity

There are clear winners and losers in the scarcity debate. Across all framings and all sources, we show, following others (McCarthy and Wolford 2011; Hildyard 2010; Mehta 2010; Xenos 1989), how scarcity is constructed and so reflects particular interests and positions. Recognising that scarcity narratives are constructed does not mean that scarcities are not 'real'; rather, we show that it is how these are presented and interpreted that is subject to processes of construction, and that a knowledge politics is at play. Narratives matter in policy and investment behaviour, and as we have seen some have greater influence than others, with direct effects on how problems are framed and solutions designed.

Mainstream narratives present in the 134 sources analysed for this paper emphasise a combination of absolute and relative scarcity framings, and largely ignore political aspects. Political scarcity framings do emerge in some sources, but these too have their limits, which we observe as often ignoring relational issues of history, scale and power. If mainstream narratives are to be challenged, a richer, more nuanced perspective that emphasises the political dimensions is, we argue, essential.

Narratives emphasising a political scarcity framing need to highlight the importance of restructuring the relationships between resources, the state and society, even abandoning the demand-supply/fixed limits notions of scarcity altogether. If scarcities are constitutive of social, political and economic relationships within society, a new relationship between nature, society and economy has to be negotiated, with the 'metabolic rift' (Moore 2011) narrowed. This requires paying attention to how resources are distributed between different needs and uses, and so different people and social classes, with a policy emphasis on resource rights and access, and distributional issues, centred on equity and justice.

For African settings, seen as both a source of abundant resources and a site where global scarcities may be resolved, as well as where local scarcities are being experienced most acutely, such a political framing is essential. Scarcities must be seen in relation to long-term, historically-constituted structural inequalities, rooted in colonialism and carried on in unequal trade, aid and development relationships. Scarcities have been created by such imbalances, through excess production and consumption in some parts of the world, and poverty and inequality in others.

As capitalism seeks new opportunities in a neoliberal global order, the opportunities offered by Africa's apparent resource abundance and comparative advantages can be read differently if a political scarcity lens is adopted. Such a lens draws attention not only to absolute availabilities, gaps and limits, nor the potential opportunities of transformation through markets and technologies with unclear distributional outcomes, but rather to the relational qualities of multiple scarcities, being constructed in particular ways by different actors in relation to their interests. Such a political view highlights the differentiated role of capitalism and capitalist agribusiness in restructuring access to land, markets and livelihoods, thus creating scarcities and opportunities for different people in highly differentiated, power-laden settings (cf. Moyo and Chambati 2013).

Such an extended political scarcity framing thus requires us to recognise multiple scarcities. There is a need to pluralise the discourse on scarcity and recognise scale and diversity, for scarcities affect different people in different places. Scarcity depends on what resource we are talking about, where it is, who has access to it and how it is used. There is a need to identify the material effects of different scarcities, and the interventions that emerge – whether a macro-policy or a more local project-level effort – and elaborate the distributional consequences, delineating winners and losers. And finally there is a need to be clear about the political consequences of scarcity-driven interventions on the structural relations within a society in the wider political economy that defines these. It is important that we all question claims about scarcity and abundance, especially when they are used to justify large-scale land acquisitions, the transfer or commodification of land use rights, and new public-private initiatives such as are being embarked upon under the G8's New Alliance for Food Security and Nutrition, which seek to transform farming practices in African countries.

A political understanding of scarcity requires paying attention to how resources are distributed between different needs and uses, and so different people and social classes, and a policy emphasis on land and resource rights. Scarcity is not universal, given, fixed or determining, but context-specific, socially constructed, politically contested, variable and dynamic. Rewriting narratives of scarcity – whether in research bid documents, commercial pitches or erudite policy statements – is not easy, so deeply embedded are the assumptions and associated technical artefacts, methods and procedures. But a recasting of such narratives remains an important intellectual and political challenge if we are to reshape

our responses to global resource grabs beyond the simplistic frames currently offered by all policy players.

## END NOTES

- <sup>1</sup> The review covered only 'grey' policy sources, presented in a variety of media. It did not cover the critical academic literature that has emerged, which develops a critique along similar lines to this paper.
- <sup>2</sup> However, our consideration of English-only material means that many voices were excluded from our analysis.
- <sup>3</sup> See Borras et al (2010, 2011); White et al (2012) and Wolford et al (2013) for overviews, and Locher and Sulle (2013) for a detailed analysis of the Tanzania situation.
- <sup>4</sup> Whereas Ricardo's concept of relative scarcity acknowledged the heterogeneity of land, leading to arguments that the best land tends to be used up first, and thus the theory of diminishing returns.
- <sup>5</sup> Fischer, G., Hiznyik, E., Prieler, S. and Wiberg, D. 2010. Scarcity and abundance of land resources: competing uses and the shrinking land resource base. SOLAW thematic report no.2. Rome: FAO. The data that are cited in the FAO 2011a source are FAOSTAT and GAEZ 2009 data, using statistics on actual yields in 2000 and 2005. See page 50, table 19, of the reference. In it, the authors argue strongly for sub-Saharan Africa to improve its agricultural performance. It is available at [http://www.fao.org/fileadmin/templates/solaw/files/thematic\\_reports/TR\\_02\\_light.pdf](http://www.fao.org/fileadmin/templates/solaw/files/thematic_reports/TR_02_light.pdf).
- <sup>6</sup> See Scoones et al. (2013), Special Issue: JPS Forum on Global Land Grabbing Part 2: On Methods in the Journal of Peasant Studies, Volume 40, Issue 3, 2013.

This research was conducted as part of the first phase of the Land and Agricultural Commercialisation in Africa (LACA) project (<http://www.future-agricultures.org/laca>). This is supported by the UK Economic and Social Research Council, and is part of the Future Agricultures Consortium land theme. The project is coordinated by the Institute for Poverty, Land and Agrarian Studies at the University of the Western Cape in South Africa. We would like to thank Lyla Mehta for providing helpful review comments, as well as inputs from participants at the LACA research workshop at University of Ghana at Legon in October 2013. Additional support came from the ESRC-funded STEPS Centre at the University of Sussex, UK.

## References

- AGRA. 2013. *Africa's Green Revolution*. Alliance for a Green Revolution in Africa brochure. Available at <http://www.agra.org/resources/> (accessed 20 September 2013).
- Alexandratos, N. 1995. The outlook for world food and agriculture to year 2010. In: N. Islam (ed.), *Population and Food in the Early Twenty-First Century: Meeting Future Food Demands of an Increasing Population*. Washington, D.C.: IFPRI, pp. 25–48.
- Barbier, E.B. 2011. *Scarcity and Frontiers*. Cambridge: Cambridge University Press.
- Barnett, H.J. and Morse, C. 1963. *Scarcity and Growth: The Economics of Natural Resource Availability*. Baltimore: The Johns Hopkins Press.
- Baumgärtner, S., Becker, C., Faber, M. and Manstetten, R. 2006. Relative and absolute scarcity of nature: assessing the roles of economics and ecology for biodiversity conservation. *Ecological Economics*, 59, pp. 487–498.
- Bayart, J-F. 1993. *The State in Africa: The Politics of the Belly*. London: Longman.
- Beddington, J. 2009a. Food, energy, water and the climate: a perfect storm of global events? Available at <http://www.bis.gov.uk/assets/goscience/docs/p/perfect-storm-paper.pdf>.
- Beddington, J. 2009b. Speech at SDUK 09 conference. Available at <http://www.govnet.co.uk/news/govnet/professor-sir-john-beddingtons-speech-at-sduk-09>.
- Bernstein, H. 2013. Food Sovereignty: A Skeptical View. Paper presented at the Conference on Food Sovereignty: A Critical Dialogue, Yale University, 14-15 September 2013.
- Binswanger, H.P. and Ruttan, V. 1978. *Induced Innovation: Technology, Institutions and Development*. Baltimore: Johns Hopkins University Press.
- Blaikie, P. and Brookfield, H. 1987. *Land Degradation and Society*. London: Methuen.
- Borras, J., Hall, B., Scoones, I., White, B. and Wolford, W. 2011. Towards a better understanding of global land grabbing. Forum on Global Land Grabbing, I. *Journal of Peasant Studies*, 38(2), pp. 209–16
- Borras, J., McMichael, P. and Scoones, I. 2010. The politics of biofuels, land and agrarian change. Special Issue. *Journal of Peasant Studies*, 37(4), pp. 575–592.
- Boserup, E. 1981. *Population and Technological Change: A Study of Long Term Trends*. Chicago: University of Chicago Press.
- Boserup, E. 1993. *The Conditions of Agricultural Growth: The Economics of Agrarian Change Under Population Pressure*. London: Earthscan.
- Bourne, J.K. 2009. 'The global food crisis: The end of plenty'. *National Geographic*, July 2009. Available at <http://ngm.nationalgeographic.com/2009/06/cheap-food/bourne-text>.
- Brown, L. 1995. Future supplies of land and water are fast approaching depletion. In: N. Islam (ed.), *Population and Food in the Early Twenty-First Century: Meeting Future Food Demands of an Increasing Population*. Washington, D.C.: IFPRI, pp. 161–166.
- Büscher, B. and Igoe, J. 2013 (in press). 'Prosuming' Conservation? Web 2.0, nature and the intensification of value-producing labour in late capitalism. *Journal of Consumer Culture* 13(3).
- Cairns, R.D. 1990. A contribution to the theory of depletable resource scarcity and its measures. *Economic Inquiry*, 28(4), pp. 744–755.
- Castree, N. 2003. Commodifying what nature? *Progress in Human Geography*, 27(2).
- Cleveland, C.J. 1991. Natural resource scarcity and economic growth revisited: Economic and biophysical perspectives. In: R. Costanza (ed.), *Ecological Economics: The Science and Management of Sustainability*. New York: Columbia University Press, pp. 289–317.
- Colman, D. and Young, T. 1989. *Principles of Agricultural Economics: Markets and Prices in Less Developed Countries*. Cambridge: Cambridge University Press.
- Costanza, R. 1989. What is ecological economics? *Ecological Economics*, 1, pp. 1–7.
- Curzio, A.Q. and Pellizzari, F. 1999. *Rent, Resources, Technologies*. Heidelberg: Springer-Verlag.
- Daly, H.E. 1974. Steady-state economics versus growthmania: a critique of the orthodox conceptions of growth, wants, scarcity and efficiency. *Policy Sciences*, 5(2), pp. 149–167.
- Daly, H.E. and Farley, J. 2004. *Ecological Economics: Principles and Applications*. Washington: Island Press.
- Daly, H.E. 2007. *Ecological Economics and Sustainable Development: Selected Essays of Herman Daly*. Cheltenham: Edward Elgar.
- Daoud, A. 2010. Robbins and Malthus on scarcity, abundance and sufficiency: the missing sociocultural element. *American Journal of Economics and Sociology*, 69(4), pp. 1206–1229.
- Dasgupta, P.S. and Heal, G.M. 1980. *Economic Theory and Exhaustible Resources*. Cambridge: Cambridge University Press.

- Drummond, H.E. and Goodwin, J.W. 2001. *Agricultural Economics*. Third edition. Upper Saddle River: Prentice Hall.
- Edelman, M. 2013. Messy hectares: Questions about the epistemology of land grabbing data. *Journal of Peasant Studies*, 40(3), pp. 485–501,
- Ehrlich, P.R. 1968. *The Population Bomb*. New York: Ballantine Books.
- Ecklersley, R. 1992. *Environmentalism and Political Theory*. London: UCL Press.
- Fairhead, J. and Leach, M. 1995. False forest history, complicit social analysis: Rethinking some West African environmental narratives. *World Development*, 23(6): 1023–1035.
- FAO. 2003. *World Agriculture Towards 2015/2030: An FAO Perspective*. Edited by J. Bruinsma. London: Earthscan.
- Fischer-Kowalski, M. And Haberl, H. 2007. Conceptualizing, observing and comparing sociological transitions. In: M. Fischer-Kowalski and H. Haberl (eds.), *Socioecological Transitions and Global Change*. Cheltenham: Edward Elgar, pp. 1–30.
- Fine, B. 2010. Economics and scarcity: with Amartya Sen as a point of departure? In: L. Mehta (ed.), *The Limits to Scarcity: Contesting the Politics of Allocation*. London: Earthscan, pp. 73-92
- Flew, A. 1970. Introduction. In: T.R. Malthus, *An Essay on the Principle of Population and A Summary View of the Principle of Population*. Edited by A. Flew. Harmondsworth: Penguin Books, pp. 7–56.
- Forsyth, T. 2003. *Critical Political Ecology*. London and New York: Routledge.
- Fraser, D. 1971. *The People Problem*. Bloomington: Indiana University Press.
- Fuglie, K.O., Sun, L.W. and Ball, V.E. 2012. Introduction to productivity growth in agriculture. In: K.O. Fuglie, L.W. Sun and V.E. Ball (eds.), *Productivity Growth in Agriculture: An International Perspective*. Wallingford: CABI.
- Gammon, E. 2010. Nature as adversary: the rise of modern conceptions of nature. *Economy and Society*, 39(2), pp. 218–246.
- Gerbens-Leenes, P.W. and Nonhebel, S. 2002. Consumption patterns and their effects on land required for food. *Ecological Economics*, 42, pp. 185–199.
- Goldman, M. 2005. *Imperial Nature: The World Bank and Struggles for Social Justice in the Age of Globalization*. New Haven: Yale University Press.
- Green, D. 2012. Creating killer facts and graphics. Oxfam Research Guidelines. Available from: <http://policy-practice.oxfam.org.uk/publications/creating-killer-facts-and-graphics-253013> (accessed 16 July 2013).
- Greenland, D.J., Gregory, P.J. and Nye, P.H. 1997. Introduction and conclusions. *Philosophical Transactions: Biological Sciences*, 352(1356), pp. 861–867.
- Hanley, N., Shogren, J.F. and White, B. 2001. *Introduction to Environmental Economics*. Oxford: Oxford University Press.
- Harris, J.M. 1996. World agricultural futures: regional sustainability and ecological limits. *Ecological Economics*, 17, pp. 95–115.
- Hartmann, B. 2010. The ghosts of Malthus: narratives and mobilizations of scarcity in the US political context. In: L. Mehta (ed.), *The Limits to Scarcity: Contesting the Politics of Allocation*. London: Earthscan, pp. 49–66.
- Harvey, D. 1974. Population, resources and the ideology of science. *Economic Geography*, 50(3), pp. 256–277.
- Hayami, Y. and Godo, Y. 2005. *Development Economics: From the Poverty to the Wealth of Nations*. Third edition. New York: Oxford University Press.
- Hayami, Y. and Ruttan, V.W. 1985. *Agricultural Development: An International Perspective*. Baltimore: The Johns Hopkins Press.
- Hildyard, N. 2010. 'Scarcity' as political strategy: reflections on three hanging children. In: L. Mehta (ed.), *The Limits to Scarcity: Contesting the Politics of Allocation*. London: Earthscan, pp. 149–164.
- Homer-Dixon, T.F. 2010. *Environment, Scarcity and Violence*. Princeton, NJ: Princeton University Press.
- Hubacek, K. and van der Bergh, J.C.J.M. 2006. Changing concepts of 'land' in economic theory: from single to multi-disciplinary approaches. *Ecological Economics*, 56, pp. 5–27
- Hussen, A.M. 2000. *Principles of Environmental Economics*. First edition. London: Routledge.
- Hussen, A.M. 2013. *Principles of Environmental Economics and Sustainability*. Third edition. London: Routledge.
- Ianchovichina, E., Darwin, R. and Shoemaker, R. 2001. Resource use and technological progress in agriculture: a dynamic general equilibrium analysis. *Ecological Economics*, 38, pp. 275–291.
- IIASA/FAO. 2012. *Global Agro-Ecological Zones (GAEZ ver. 3.0): Model Documentation*. Laxenburg and Rome: IIASA and FAO.



- Islam, N. 1995. Overview. In: N. Islam (ed.), *Population and Food in the Early Twenty-First Century: Meeting Future Food Demands of an Increasing Population*. Washington, D.C.: IFPRI.
- Keeley, J. and Scoones, I. 2003. *Understanding Environmental Policy Processes*. London: Earthscan.
- Kelsall, T. 2013. *Business, Politics and the State in Africa: Challenging the Orthodoxies of Growth and Transformation*. London: Zed Books.
- Lambin, E.F. and Meyfroidt, P. 2011. Global land use change, economic globalization and the looming land scarcity. *PNAS*, 108(9), pp. 23465–3472. And 'Supporting information', 10.1073/pnas.1100480108, pp. 1–4.
- Lappé, F.M. and Collins, J. 1977. *Food First: The Myth of Scarcity*. London: Souvenir Press.
- Lawn, P. 2007. *Frontier Issues in Ecological Economics*. Cheltenham: Edward Elgar.
- Lears, J. 2013. The round world made flat: the curious neoliberal social scientism of Jared Diamond. *BookForum*, December/January 2013. Available at [http://www.bookforum.com/inprint/019\\_04/10583](http://www.bookforum.com/inprint/019_04/10583).
- Lipton, M. 1989. Responses to rural population growth: Malthus and the moderns. *Population and Development Review*, 15 (supplement), pp. 215–242.
- Luks, F. 2010. Deconstructing economic interpretations of sustainable development: limits, scarcity and abundance. In: L. Mehta (ed.), *The Limits to Scarcity: Contesting the Politics of Allocation*. London: Earthscan, pp. 93–108.
- Makki, F. and Geisler, C. 2011. Development by dispossession: Land grabbing as new enclosures in contemporary Ethiopia. Paper presented at the International Conference on Global Land Grabbing, University of Sussex, 6–8 April 2011.
- Malthus, T.R. 1798. *An Essay on the Principle of Population*. Republished in: T.R. Malthus 1970. *An Essay on the Principle of Population and A Summary View of the Principle of Population*. Edited by A. Flew. Harmondsworth: Penguin Books, pp. 61–217.
- Mamdani, M. 1981. The ideology of population control. In: K.L. Michaelson (ed.), *And The Poor Get Children: Radical Perspectives on Population Dynamics*. New York: Monthly Review Press, pp. 39–49.
- Marter, A. and Gordon, A. 1996. Emerging issues confronting the renewable natural resources sector in sub-Saharan Africa. *Food Policy*, 21(2), pp. 229–241.
- McCarthy, J. and Wolford, W. 2011. Land, energy, water: from scarcity to security. Final report for Oxfam America. Unpublished report.
- Meadows, D., Randers, J. and Meadows, D. 2005. *Limits To Growth: The 30-Year Update*. London: Earthscan.
- Meadows, D.H., Meadows, D.L., Randers, J. and Behrens, W.W. 1972. *The Limits To Growth*. A report for the Club of Rome's project on the predicament of mankind. London: Earth Island.
- Mehta, L. 2001. The manufacture of perceptions of scarcity: dams and water-related narratives in Gujarat, India. *World Development*, 29(12): pp. 2025–2041.
- Mehta, L. 2005. *The Politics and Poetics of Water: Naturalising Scarcity in Western India*. New Delhi: Orient Longman.
- Mehta, L. 2010a. Introduction. In: L. Mehta (ed.), *The Limits to Scarcity: Contesting the Politics of Allocation*. London: Earthscan, pp. 1–8.
- Mehta, L. 2010b. The scare, naturalization and the politicization of scarcity. In: L. Mehta (ed.), *The Limits to Scarcity: Contesting the Politics of Allocation*. London: Earthscan, pp. 13–50.
- Michaelson, K.L. 1981. *And The Poor Get Children: Radical Perspectives on Population Dynamics*. New York: Monthly Review Press.
- Millennium Ecosystem Assessment 2005. *Ecosystems and Human Well-Being: Synthesis*. Washington, D.C.: Island Press.
- Moore, J.W. 2011. Transcending the metabolic rift: a theory of crises in the capitalist world-ecology. *Journal of Peasant Studies*, 38(1), pp. 1–46.
- Moyo, S. and W. Chambati (eds.). 2013. *Land and Agrarian Reform in Zimbabwe: Beyond White-Settler Capitalism*. Dakar and Harare: CODESRIA and AIAS.
- Nalepa, R.A. and Bauer, D.M. 2012. Marginal lands: the role of remote sensing in constructing landscapes for agrofuel development. *Journal of Peasant Studies*, 39(2), pp. 403–422.
- Neumayer, E. 2000. Scarce or abundant? The economics of natural resource availability. *Journal of Economic Surveys*, 14(3), pp. 307–335.
- Norgaard, R.B. 1975. Scarcity and growth: how does it look today? *American Journal of Agricultural Economics*, 57(5), pp. 810–814.
- O'Brien, D.P. 2007. Classical economics. In: W.J. Samuels, J.E. Biddle and J.B. Davis (eds.), *A Companion to the History of Economic Thought*. Malden, MA: Blackwell Publishing, pp. 113–129.
- Odum, E.P. 1969. The strategy of ecosystem development. *Science*, 164(3877), pp. 262–270.

- Oya, C. 2013. Methodological reflections on 'land grab' databases and the 'land grab' literature 'rush'. *Journal of Peasant Studies*, 40(3), pp. 503–520.
- Paarlberg, R. 2010. *Food Politics: What Everyone Needs to Know*. Oxford: Oxford University Press.
- Peach, T. 2008. Ricardo. In: S.N. Durlauf and L.E. Blume (eds.), *The New Palgrave Dictionary of Economics*. Second edition. Basingstoke: Palgrave Macmillan.
- Peacock, A.T. 1953. Malthus in the twentieth century. In: D.V. Glass (ed.), *Introduction to Malthus*. London: Watts & Co, pp. 55–78.
- Pearce, D.W. and Turner, R.K. 1990. *Economics of Natural Resources and the Environment*. New York: Harvester Wheatsheaf.
- Peet, R. and Watts, M. (eds.). 1996. *Liberation Ecologies: Environment, Development and Social Movements*. London and New York: Routledge.
- Penning de Vries, F.W.T., Rabbinge, R. and Groot, J.J.R. 1997. Potential and attainable food production and food security in different regions. *Philosophical Transactions: Biological Sciences*, 352(1356), pp. 917–928.
- Perelman, M. 1979. Marx, Malthus and the concept of natural resource scarcity. *Antipode*, 11(2), pp. 80–90.
- Ricardo, D. 1821. *On The Principles of Political Economy and Taxation*. Third edition. London: John Murray.
- Robbins, L. 1932. *An Essay on the Nature and Significance of Economic Science*. London: Macmillan.
- Rockström, J. et al. 2009. Planetary boundaries: exploring the safe operating space for humanity. *Ecology and Society*, 14(2), pp. 32.
- Ross, J.R. 1975. Man over nature: origins of the conservation movement. *American Studies*, 16(1), pp. 49–62.
- Scoones, I., Hall, R., Borras, J., Wolford, W. and White, B. 2013. The politics of evidence: methodologies for understanding the global land rush. *Journal of Peasant Studies*, 40(3).
- Scoones, I. 2009. The politics of global assessments: the case of the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD). *Journal of Peasant Studies*, 36(3), pp. 547–571.
- Scoones, I. 2010. Seeing scarcity: understanding soil fertility in Africa. In: L. Mehta (ed.), *The Limits to Scarcity: Contesting the Politics of Allocation*. London: Earthscan, pp. 165–178.
- Scott, A. and Pearce, P. 1992. Natural resources in a high-tech economy. *Resources Policy*, September 1992, pp. 154–166.
- Seidl, I. and Tisdell, C.A. 1999. Carrying capacity reconsidered: from Malthus' population theory to cultural carrying capacity. *Ecological Economics*, 31, pp. 395–408.
- Sen, A. 1981. *Poverty and Famines: An Essay on Entitlement and Deprivation*. Oxford: Oxford University Press.
- Sender, R. and Smith, S. 1984. *What's Right With the Berg Report and What's Left of its Critics?* Institute of Development Studies, Discussion Paper 192. Sussex: IDS.
- Smith, M.S. 2006. Discourses on development: beyond the 'African tragedy'. In: M.S. Smith (ed.), *Beyond the 'African Tragedy': Discourses on Development and the Global Economy*. Aldershot: Ashgate Publishing, pp. 1–22.
- Stevenson, J.R., Villoria, N., Byerlee, D., Kelley, T. and Meredia, M. 2013. Green Revolution research saved an estimated 18 to 27 million hectares from being brought into agricultural production. *PNAS*, 110(21), pp. 8363–8368.
- Sumberg, J. and Thompson, J. (eds.). 2012. *Contested Agronomy: Agricultural Research in a Changing World*. Routledge: London.
- Tietenberg, T. 2003. *Environmental and Natural Resource Economics*. Sixth edition. New York: Pearson.
- Turner, K., Perrings, C. and Folke, C. 1995. *Ecological Economics: Paradigm or Perspective?* CSERGE Working Paper GEC 95–17.
- Watts, M.J. 2013. *Silent Violence: Food, Famine and Peasantry in Northern Nigeria*. University of Georgia Press.
- White, B., Borras, J., Hall, R., Scoones, I. and Wolford, W. 2012. The new enclosures: critical perspectives on corporate land deals. Special Issue, *Journal of Peasant Studies*, 39(3–4), pp. 619–647.
- White, J.M. 2013. The New Alliance for Food Security and Nutrition. GMF Economic Policy Paper Series 2013. Washington, D.C.: German Marshall Fund of the United States. Available at [http://www.gmfus.org/wp-content/blogs.dir/1/files\\_mf/1365534417White\\_NewAlliance\\_Mar13\\_web.pdf](http://www.gmfus.org/wp-content/blogs.dir/1/files_mf/1365534417White_NewAlliance_Mar13_web.pdf).
- Wolford, W., Borras, J., Hall, R., Scoones, I. and White, B. 2013. Governing global land deals: The role of the state in the rush for land. Special Issue, *Development and Change*, 44(2), pp. 189–210.
- Wolmer, W. 2003. Transboundary Conservation: The Politics of Ecological Integrity in the Great Limpopo Transfrontier Park. *Journal of Southern African Studies*, 29(1), pp. 261–278.
- Wylie, J. 2007. *Landscape*. Abingdon: Routledge.
- Xenos, N. 1989. *Scarcity and Modernity*. London and New York: Routledge.

## Appendix: Sources analysed

Source	Category
ABN. 2013. 'Alliance for Food Sovereignty (AFSA)'. Web page. <a href="http://www.africanbiodiversity.org/content/alliance_food_sovereignty_afsa">http://www.africanbiodiversity.org/content/alliance_food_sovereignty_afsa</a>	Civil society
Acord, Oxfam and ActionAid. 2012. <i>The Right to Land and Justice for Women in Africa</i> . Report on the African Women's Land Rights Conference, Nairobi, 30th May to 2nd June 2011.	NGO, civil society
ActionAid. 2010. <i>Meals Per Gallon: The Impact of Industrial Biofuels on People and Global Hunger</i> . London: ActionAid UK. Accessed at <a href="http://www.actionaid.org.uk/102322/new_biofuels_report_shows_how_europe_is_driving_hunger.html">http://www.actionaid.org.uk/102322/new_biofuels_report_shows_how_europe_is_driving_hunger.html</a>	NGO
ActionAid. 2013. 'Food not fuel' web pages. <a href="http://www.actionaid.org.uk/102268/food_not_fuel.html">http://www.actionaid.org.uk/102268/food_not_fuel.html</a>	NGO
AfDB. 2010. <i>Agriculture Sector Strategy 2010–2014</i> . African Development Bank Group. Accessed at <a href="http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/Agriculture%20Sector%20Strategy%2010-14.pdf">http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/Agriculture%20Sector%20Strategy%2010-14.pdf</a>	African policy
AFGRI. 2013. 'AFGRI in Africa'. Web page. <a href="http://www.afgri.co.za/myafgri/ops_afgri_africa.php">http://www.afgri.co.za/myafgri/ops_afgri_africa.php</a>	Agribusiness
African Biodiversity Network. 2012. 'Celebrating 10 years of ABN – an interview with Gathuru Mburu'. Web page. <a href="http://www.africanbiodiversity.org/content/celebrating_10_years_abn_interview_gathuru_mburu">http://www.africanbiodiversity.org/content/celebrating_10_years_abn_interview_gathuru_mburu</a>	NGO
African Development Bank Group. 2013. 'Agriculture & agro-industries: Bank Group vision', 'Agro-industry development' and 'African agriculture'. Web pages. <a href="http://www.afdb.org/en/topics-and-sectors/sectors/agriculture-agro-industries">http://www.afdb.org/en/topics-and-sectors/sectors/agriculture-agro-industries</a>	African policy
African Union. 2009. Sirte Declaration on Investing in Agriculture for Economic Growth and Food Security. Doc. Assembly/AU/12 (VIII).	African policy
AFSA. 2011. Food Sovereignty Systems. Accessed at <a href="http://www.africanbiodiversity.org/system/files/images/AFSA%20Document.pdf">http://www.africanbiodiversity.org/system/files/images/AFSA%20Document.pdf</a>	Civil society
AgCapita. 2013. AgCapita website. <a href="http://www.farmlandinvestmentpartnership.com/">http://www.farmlandinvestmentpartnership.com/</a>	Investor
AGRA. 2011. Policy. Nairobi: AGRA. Accessed at <a href="http://www.agra.org/what-we-do/agra-soil-health-program-/">http://www.agra.org/what-we-do/agra-soil-health-program-/</a>	Policy
AGRA. 2011. Soil. Nairobi: AGRA. Accessed at <a href="http://www.agra.org/what-we-do/agra-soil-health-program-/">http://www.agra.org/what-we-do/agra-soil-health-program-/</a>	Policy
AGRA. 2013. Website. <a href="http://www.agra.org">http://www.agra.org</a>	Policy
Agri-Vie. 2013. Website. <a href="http://www.agrivie.com/about.html">http://www.agrivie.com/about.html</a>	Investor
Annan, K.A. [AGRA] 2011. 'Delivering global food and nutrition security – the challenge of our time'. Address to 37th FAO Conference as the Chair of AGRA, 25 June 2011. Accessed at <a href="http://www.kofiannanfoundation.org/sites/default/files/20110625%20FAO%20McDougall%20Lecture%20Rome_0.pdf">http://www.kofiannanfoundation.org/sites/default/files/20110625%20FAO%20McDougall%20Lecture%20Rome_0.pdf</a>	NGO
APO. 2009. 'African Development Bank promotes agribusiness investment funds / equity participation of USD 15 million in agribusiness fund'. Press release, 28 January. Accessed at <a href="http://www.agrivie.com/news4.html">http://www.agrivie.com/news4.html</a>	Investor
Arezki, R., Deininger, K. and Selod, H. [IMF and World Bank] 2012. The global land rush. <i>Finance and Development</i> , March, pp. 46–49.	Investor
AU, AfDB and UNECA. 2009. Framework and Guidelines on Land Policy in Africa. Accessed at <a href="http://rea.au.int/en/sites/default/files/Framework%20and%20Guidelines%20on%20Land%20Policy%20in%20Africa.pdf">http://rea.au.int/en/sites/default/files/Framework%20and%20Guidelines%20on%20Land%20Policy%20in%20Africa.pdf</a>	African policy
Buckholtz, A. and Delay, J. 2012. The geopolitics of food scarcity: a discussion with Lester Brown. <i>Handshake</i> (IFC's quarterly journal on public–private partnerships), 5, pp. 54–57.	Investor, academic
Campanale, M. 2012. Private investment in agriculture. In: J.A. Allan, M. Keulertz, S. Sojamo and J. Warner (eds). <i>Handbook of Land and Water Grabs in Africa: Foreign Direct Investment and Food and Water Security</i> . London: Routledge, pp. 134–145. Available, partly, on Google Books.	Investor
Cargill. 2011. 2011 <i>Cargill Annual Report</i> . Minneapolis: Cargill.	Agribusiness

Cargill. 2012. 'Leading the conversation on food security'. Press release, [no date given]. Accessed at <a href="http://www.cargill.com/news/leading-the-conversation-food-security-around-the-globe/index.jsp">http://www.cargill.com/news/leading-the-conversation-food-security-around-the-globe/index.jsp</a>	Agribusiness
Cargill. 2013. 'Food security'. Web pages. <a href="http://www.cargill.com/corporate-responsibility/food-security/index.jsp">http://www.cargill.com/corporate-responsibility/food-security/index.jsp</a>	Agribusiness
Castel, V. and Kamara, A. [AfDB] 2009. Foreign investments in Africa's agricultural land: implications for rural sector development and poverty reduction. AfDB Development Research Brief, 2, April 2009. Accessed at <a href="http://www.afdb.org/fileadmin/uploads/afdb/Documents/Financial-Information/Foreign%20Investments%20in%20Africa%E2%80%99s%20Agricultural%20Land%20Implications%20for%20Rural%20Sector%20Development%20and%20Poverty%20Reduction.pdf">http://www.afdb.org/fileadmin/uploads/afdb/Documents/Financial-Information/Foreign%20Investments%20in%20Africa%E2%80%99s%20Agricultural%20Land%20Implications%20for%20Rural%20Sector%20Development%20and%20Poverty%20Reduction.pdf</a>	African policy
Charles, D. 2012a. 'Mozambique farmland is prize in land grab fever' [radio transcript] [quote from private investors]. NPR, 14 June. Accessed at <a href="http://www.npr.org/2012/06/14/155036821/mozambique-farmland-is-prize-in-land-grab-fever">http://www.npr.org/2012/06/14/155036821/mozambique-farmland-is-prize-in-land-grab-fever</a>	Investor
Charles, D. 2012b. 'African land fertile ground for crops and investors' [radio transcript] [quotes from private investors]. NPR, 15 June. Accessed at <a href="http://blogs.worldwatch.org/nourishingtheplanet/tag/land-grabs/">http://blogs.worldwatch.org/nourishingtheplanet/tag/land-grabs/</a>	Investor
Cotula, L., Vermeulen, S., Leonard, R. and Keeley, J. 2009. <i>Land Grab or Development Opportunity?</i> Report for IIED, FAO and IFAD. IIED, FAO and IFAD: London and Rome.	NGO, international policy
Coulibali, I. 2007. 'Why a forum for food sovereignty in Africa?'. In: Nyéléni 2007 International Steering Committee (ed). <i>Nyéleni 2007 Forum for Food Sovereignty</i> , pp. 20–23.	Farmers' organisation
Credit Suisse. 2008. <i>Africa: The Commodity Warrant</i> . New Perspectives series.	Investor
Crowder, N. [Chayton Capital] 2011. Presentation on Investing in Zambia's agriculture at Zambia Investment Forum, London, 9 December 2011. Accessed at <a href="http://farmlandgrab.org/post/view/20279">http://farmlandgrab.org/post/view/20279</a>	Investor
DB Climate Change Advisors. 2009. <i>Investing in Agriculture: Far-Reaching Challenge, Significant Opportunity. An Asset Management Perspective</i> . White paper. Accessed at <a href="https://www.db.com/us/docs/Ag_whitepaper_062409.pdf">https://www.db.com/us/docs/Ag_whitepaper_062409.pdf</a>	Investor
DB Research. 2013. 'Focus topic: natural resources'. Website. <a href="http://www.dbresearch.com/servlet/reweb2.ReWEB?rwnode=DBR_INTERNET_EN-PROD\$BRANCHEN&amp;rwobj=FOCUS_GREEN_EN.calias&amp;rwsite=DBR_INTERNET_EN-PROD">http://www.dbresearch.com/servlet/reweb2.ReWEB?rwnode=DBR_INTERNET_EN-PROD\$BRANCHEN&amp;rwobj=FOCUS_GREEN_EN.calias&amp;rwsite=DBR_INTERNET_EN-PROD</a>	Investor
Dryden, S. and Pingali, P. [Gates Foundation] 2011. 'Agricultural development: a refreshed strategy'. Bill & Melinda Gates Foundation. Presentation at IFAD, 26 September 2011. Accessed at <a href="http://www.slideshare.net/ifad/bill-and-melinda-gates-foundation-agriculture-strategy-presentation-26-sept-2011-at-ifad">http://www.slideshare.net/ifad/bill-and-melinda-gates-foundation-agriculture-strategy-presentation-26-sept-2011-at-ifad</a>	Donor
ECOWAS. 2011a. 'ECOWAS high level visit to Sichuan government, 22–23 June 2011. Statement of the President, ECOWAS Commission'. Accessed at <a href="http://www.ecowas.int/publications/en/speech/SICHUAN-MUNICIPAL-GOVERNMENT.pdf">http://www.ecowas.int/publications/en/speech/SICHUAN-MUNICIPAL-GOVERNMENT.pdf</a>	African policy
ECOWAS. 2011b. <i>ECOWAS Vision 2020</i> . Abuja: ECOWAS Commission. Accessed at <a href="http://www.spu.ecowas.int/wp-content/uploads/2010/03/ECOWAS-VISION-2020-THEMATIC-PAMPHLETS-in-English.pdf">http://www.spu.ecowas.int/wp-content/uploads/2010/03/ECOWAS-VISION-2020-THEMATIC-PAMPHLETS-in-English.pdf</a>	African policy
Enough Food for Everyone IF. 2013. <i>Enough Food for Everyone IF: Policy Report</i> . Accessed at <a href="http://enoughfoodif.org/issues/land">http://enoughfoodif.org/issues/land</a>	NGO
European Commission. 2009. Directive 2009/28/EC of the European Parliament and of the Council on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.	International policy
European Union. 2012. <i>European Report on Development 2011/12. Confronting Scarcity: Managing Water, Energy and land for Inclusive and Sustainable Growth</i> . Belgium: EU. Accessed at <a href="http://www.erd-report.eu/erd/report_2011/index.html">http://www.erd-report.eu/erd/report_2011/index.html</a>	International policy
FAO. 2010a. 'Foreign investment in developing country agriculture: issues, policy implications and international response'. Committee on Commodity Problems, 68th session, 14–16 June 2010. Document CCP/10/5 Rev.1.	International policy
FAO. 2010b. 'Investments in agriculture must grow'. 23 November. Accessed at <a href="http://www.fao.org/news/story/en/item/47881/icode/">http://www.fao.org/news/story/en/item/47881/icode/</a>	International policy

FAO. 2011a. <i>The State of the World's Land and Water Resources for Food and Agriculture</i> . Abingdon and New York: Earthscan and FAO. Accessed at <a href="http://www.fao.org/nr/solaw/solaw-home/en/">http://www.fao.org/nr/solaw/solaw-home/en/</a>	International policy
FAO. 2011b. 'Scarcity and degradation of land and water: growing threat to food security'. Press release, 28 November. Accessed at <a href="http://www.fao.org/news/story/en/item/95153/icode/">http://www.fao.org/news/story/en/item/95153/icode/</a>	International policy
FAO. 2011c. <i>The State of the World's Land and Water Resources for Food and Agriculture. Summary Report</i> . Abingdon and New York: Earthscan and FAO. Accessed at <a href="http://www.fao.org/docrep/015/i1688e/i1688e00.pdf">http://www.fao.org/docrep/015/i1688e/i1688e00.pdf</a>	International policy
FAO. 2012a. <i>The State of Food and Agriculture 2012: Investing in Agriculture for a Better Future</i> . Rome: Italy.	International policy
FAO. 2012b. <i>The State of Food and Agriculture 2012: Investing in Agriculture for a Better Future</i> . Executive Summary. Rome: Italy.	International policy
FAO. 2012c. 'FAO calls for farmer-centred approach to investment in agriculture'. Press release, 6 December. Accessed at <a href="http://www.fao.org/news/story/en/item/165816/icode/">http://www.fao.org/news/story/en/item/165816/icode/</a>	International policy
FARA. 2012. 'FARA within the new alliance to boost Africa's food and nutrition security'. Press release. Accessed at <a href="http://www.fara-africa.org/media/uploads/File/fara_press_release_on_the_g8_summit_ver23may2012d.pdf">http://www.fara-africa.org/media/uploads/File/fara_press_release_on_the_g8_summit_ver23may2012d.pdf</a>	African policy
FARA. 2013. 'Rationale: the challenges of African agricultural research and development'. Web page. <a href="http://www.fara-africa.org/about-us/background/">http://www.fara-africa.org/about-us/background/</a>	African policy
FIAN International and La Via Campesina. 2012. Oral intervention of FIAN International and La Via Campesina in the 8th session of the UN Human Rights Council Advisory Committee, 23 February 2012. Accessed at: <a href="http://viacampesina.org/en/index.php?option=com_content&amp;view=article&amp;id=1180:lunch-of-international-alliance-against-land-grabbing&amp;catid=23:agrarian-reform&amp;Itemid=36">http://viacampesina.org/en/index.php?option=com_content&amp;view=article&amp;id=1180:lunch-of-international-alliance-against-land-grabbing&amp;catid=23:agrarian-reform&amp;Itemid=36</a>	NGO, civil society
Foresight. 2011a. <i>The Future of Food and Farming: Challenges and Choices for Global Sustainability</i> . Final project report. London: the Government Office for Science.	International policy
Foresight. 2011b. <i>Foresight Project on Global Food and Farming Futures. Synthesis Report C1: Trends in Food Demand and Production</i> . London: the Government Office for Science.	International policy
Foresight. 2011c. <i>Foresight Project on Global Food and Farming Futures. Synthesis Report C2: Changing Pressures on Food Production Systems</i> . London: the Government Office for Science.	International policy
Friends of the Earth Europe and Friends of the Earth Africa. 2010. <i>Africa: Up For Grabs</i> . London and Benin City: FoE Europe and FoE Africa.	NGO
Gaia Foundation, Biofuelwatch, African Biodiversity Network, Salva La Selva, Watch Indonesia and EcoNexus. 2008. <i>Agrofuels and the Myth of the Marginal Lands</i> . A briefing, September 2008. Accessed at <a href="http://www.gaiafoundation.org/sites/default/files/Agrofuels%26MarginalMyth.pdf">http://www.gaiafoundation.org/sites/default/files/Agrofuels%26MarginalMyth.pdf</a>	NGO, civil society
Gates Foundation. 2012. 'Helping Poor Farmers, Changes Needed to Feed 1 Billion Hungry'. Press release, 23 February. Accessed at <a href="http://www.gatesfoundation.org/Media-Center/Press-Releases/2012/02/Helping-Poor-Farmers-Changes-Needed-to-Food-1-Billion-Hungry">http://www.gatesfoundation.org/Media-Center/Press-Releases/2012/02/Helping-Poor-Farmers-Changes-Needed-to-Food-1-Billion-Hungry</a>	Donor
Gates Foundation. 2013. 'Agricultural development'. Web page. <a href="http://www.gatesfoundation.org/What-We-Do/Global-Development/Agricultural-Development">http://www.gatesfoundation.org/What-We-Do/Global-Development/Agricultural-Development</a>	Donor
Gibbons, J. [Olam] 2012. 'Keynote address: From ABCD to NOW: leading the way in global agribusiness & combating the supply-demand imbalance'. Presentation at Future Farms America 2012 conference. <a href="http://www.youtube.com/watch?v=Y2m4Z0qn3HQ">http://www.youtube.com/watch?v=Y2m4Z0qn3HQ</a>	Agribusiness
GLOBAL 2000, SERI and Friends of the Earth Europe. 2013. <i>Hidden Impacts: How Europe's Resource Overconsumption Promotes Global Land Conflicts</i>	NGO
GRAIN. 2008. <i>Seized! The 2008 Land Grab for Food and Financial Security</i> . GRAIN briefing October 2008. Accessed at <a href="http://www.grain.org/article/entries/93-seized-the-2008-landgrab-for-food-and-financial-security">http://www.grain.org/article/entries/93-seized-the-2008-landgrab-for-food-and-financial-security</a>	NGO
GRAIN. 2012b. 'Who will feed China: agribusinesses or its own farmers? Decisions in Beijing echo around the world'. 4 August. Accessed at <a href="http://www.grain.org/article/entries/4546-who-will-feed-china-agribusiness-or-its-own-farmers-decisions-in-beijing-echo-around-the-world">http://www.grain.org/article/entries/4546-who-will-feed-china-agribusiness-or-its-own-farmers-decisions-in-beijing-echo-around-the-world</a>	NGO

Grantham, J. 2012. 'Welcome to dystopia: entering a long-term and politically dangerous food crisis'. GMO quarterly letter to investors, July 2012. GMO LLC. Accessed at <a href="https://www.gmo.com/Europe/Library/Letters/">https://www.gmo.com/Europe/Library/Letters/</a>	Investor
Graziano da Silva, J., Nwanze, K.F. and Cousin, E. [FAO, IFAD and WFP] 2012. 'Tackling the root causes of high food prices and hunger'. FAO, IFAD and WFP press statement. Accessed at <a href="http://www.ifad.org/media/press/2012/foodprices.htm">http://www.ifad.org/media/press/2012/foodprices.htm</a>	International policy
GreenWorld. 2012. Farmland Investment. Web blog. <a href="http://farmlandinvestment.blogspot.co.uk">http://farmlandinvestment.blogspot.co.uk</a>	Investor
GreenWorld. 2013. GreenWorld website. <a href="http://www.greenworldbvi.com/alternative-investments-options/agricultural-farmland/african/">http://www.greenworldbvi.com/alternative-investments-options/agricultural-farmland/african/</a>	Investor
Haralambous, S., Liversage, H. and Romano, M. [IFAD] 2009. <i>The Growing Demand for Land: Risks and Opportunities for Smallholder Farmers</i> . Discussion paper for round table 2, IFAD Governing Council, 18–19 February 2009. Rome: IFAD.	International policy???
Haslestad, J.O. [Yara] 2012. 'Strong results and growth'. Media statement. Accessed at <a href="http://www.yara.com/media/stories/strong_results_and_growth.aspx">http://www.yara.com/media/stories/strong_results_and_growth.aspx</a>	Agribusiness
HLPE (High Level Panel of Experts on Food Security and Nutrition). 2011. <i>Land Tenure and International Investments in Agriculture</i> . HLPE report 2, July 2011. Rome: Committee on World Food Security. Accessed at <a href="http://www.fao.org/cfs/cfs-hlpe/en/">http://www.fao.org/cfs/cfs-hlpe/en/</a>	International policy
Hotter, A. 2012. Could high food prices be a blessing in disguise? [quotes from Josette Sheeran of the World Food Programme]. <i>Wall Street Journal</i> , 27 January. Accessed at <a href="http://blogs.wsj.com/davos/2012/01/27/could-high-food-prices-be-a-blessing-in-disguise-for-african-farmers/">http://blogs.wsj.com/davos/2012/01/27/could-high-food-prices-be-a-blessing-in-disguise-for-african-farmers/</a>	International policy
IAASTD. 2008. <i>Agriculture at a Crossroads</i> . Executive Summary of the Synthesis Report. Washington, D.C.: Island Press. Accessed at <a href="http://www.agassessment.org/">http://www.agassessment.org/</a>	International policy
IAASTD. 2009. <i>Agriculture at a Crossroads: Global Report</i> . Washington, D.C.: Island Press. Accessed at <a href="http://www.agassessment.org/">http://www.agassessment.org/</a>	International policy
IFAD. 2012. 'The future of world food and nutrition security'. Factsheet, May 2012. Rome: IFAD.	International policy
IFC. 2013. 'Agriculture Finance'. Web page. <a href="http://www1.ifc.org/wps/wcm/connect/Industry_EXT_Content/IFC_External_Corporate_Site/Industries/Financial+Markets/Retail+Finance/Agriculture+Finance">http://www1.ifc.org/wps/wcm/connect/Industry_EXT_Content/IFC_External_Corporate_Site/Industries/Financial+Markets/Retail+Finance/Agriculture+Finance</a>	Investor
IFPRI, Concern and Welthungerhilfe. 2012. <i>Global Hunger Index 2012</i> . Bonn, Washington D.C. and Dublin: IFPRI, Concern and Welthungerhilfe. Accessed at <a href="http://www.ifpri.org/sites/default/files/publications/ghi12.pdf">http://www.ifpri.org/sites/default/files/publications/ghi12.pdf</a>	International policy, NGO
IFPRI. 2009. IFPRI's strategy for Africa	International policy
IFPRI. 2013. <i>2012 Global Food Policy Report</i> . Washington, D.C.: IFPRI.	International policy
Illovo Sugar Ltd. 2012. <i>Integrated Annual Report</i> , pp. 16–17.	Agribusiness
InvestAg Savills. 2011. International Farmland Market Bulletin. Accessed at <a href="http://www.investag.co.uk/Bulletin2011.pdf">http://www.investag.co.uk/Bulletin2011.pdf</a>	Investor
Jones, M. 2007. Priorities for sustainable agriculture and food security. <i>The Commonwealth Ministers Reference Book 2007</i> . pp. 1–3. Accessed at <a href="http://www.commonwealthministers.com">http://www.commonwealthministers.com</a> and <a href="http://www.fara-africa.org/media/uploads/library/docs/Priorities_for_sustainable_agriculture_and_food_security.pdf">http://www.fara-africa.org/media/uploads/library/docs/Priorities_for_sustainable_agriculture_and_food_security.pdf</a>	African policy
La Via Campesina. 2012a. 'Investments needed for small scale farming, not for agribusiness'. Press release, 11 October. Accessed at <a href="http://viacampesina.org/en/index.php/main-issues-mainmenu-27/food-sovereignty-and-trade-mainmenu-38/1310-la-via-campesina-in-the-committee-on-world-foodsecurity-investments-needed-for-small-scale-farming-not-foragribusiness">http://viacampesina.org/en/index.php/main-issues-mainmenu-27/food-sovereignty-and-trade-mainmenu-38/1310-la-via-campesina-in-the-committee-on-world-foodsecurity-investments-needed-for-small-scale-farming-not-foragribusiness</a>	Civil society
La Via Campesina. 2012b. 'Agribusiness investments are destroying small-scale family farmers and peasants'. Press release, 16 October. Accessed at <a href="http://viacampesina.org/en/index.php/main-issues-mainmenu-27/food-sovereignty-and-trade-mainmenu-38/1314-world-food-day-agribusiness-investments-are-destroying-small-scale-family-farmers-and-peasants">http://viacampesina.org/en/index.php/main-issues-mainmenu-27/food-sovereignty-and-trade-mainmenu-38/1314-world-food-day-agribusiness-investments-are-destroying-small-scale-family-farmers-and-peasants</a>	Civil society
Mack, M. [Syngenta] 2012. 'The African century' can be real. <i>Wall Street Journal</i> , 22 May. Accessed at <a href="http://www.syngenta.com/global/corporate/SiteCollectionDocuments/pdf/publications/media/inthemedial/WSJ23052012.pdf">http://www.syngenta.com/global/corporate/SiteCollectionDocuments/pdf/publications/media/inthemedial/WSJ23052012.pdf</a>	Agribusiness

Mandri-Perott, C. and Bisby, J. [World Bank] 2012. Investing in irrigation. <i>Handshake</i> , 5, pp. 28–31	Investor
Millennium Challenge Corporation. 2012. 'MCC investments contribute to long-term food security'. Fact sheet. Accessed at <a href="http://www.mcc.gov/pages/activities/activity-two/food-security">http://www.mcc.gov/pages/activities/activity-two/food-security</a>	Investor / Bilateral donor?
Millennium Challenge Corporation. 2012. 'MCC investments contribute to long-term food security'. Fact sheet. Accessed at <a href="http://www.mcc.gov/pages/activities/activity-two/food-security">http://www.mcc.gov/pages/activities/activity-two/food-security</a>	Investor
Mo Ibrahim Foundation. 2011a. <i>African Agriculture: From Meeting Needs to Creating Wealth. 2011 Ibrahim Forum</i> . Accessed at <a href="http://www.moibrahimfoundation.org/agriculture/">http://www.moibrahimfoundation.org/agriculture/</a>	Donor?
Mo Ibrahim Foundation. 2011b. <i>African Agriculture: From Meeting Needs to Creating Wealth. Executive Summary. 2011 Ibrahim Forum</i> . Accessed at <a href="http://www.moibrahimfoundation.org/downloads/2011-forum-outcomes.pdf">http://www.moibrahimfoundation.org/downloads/2011-forum-outcomes.pdf</a>	Donor?
Nairobi Action Plan on Large Scale Land-based Investments in Africa. 2011. By participants of the High Level Forum on Foreign Direct Investments in Land in Africa. Accessed at <a href="http://www.afdb.org/en/news-and-events/article/high-level-forum-on-land-based-foreign-direct-investments-in-africa-8319/">http://www.afdb.org/en/news-and-events/article/high-level-forum-on-land-based-foreign-direct-investments-in-africa-8319/</a>	African policy
Ncube, M. [AfDB] 2012. 'A global rush for Africa's land: risks and opportunities'. AfDB blog, 17 October. <a href="http://www.afdb.org/en/blogs/afdb-championing-inclusive-growth-across-africa/post/a-global-rush-for-africas-land-risks-and-opportunities-9844/">http://www.afdb.org/en/blogs/afdb-championing-inclusive-growth-across-africa/post/a-global-rush-for-africas-land-risks-and-opportunities-9844/</a>	African policy
NEPAD. 2003. <i>Comprehensive Africa Agriculture Development Programme</i> . Midrand: NEPAD.	African policy
NEPAD. 2008. <i>Introducing the Comprehensive Africa Agriculture Development Programme (CAADP)</i> . Accessed at <a href="http://www.nepad-caadp.net/library-reports.php">http://www.nepad-caadp.net/library-reports.php</a>	African policy
Ngugi, M. 2007. 'African food sovereignty or AGRA'. Pambazuka News, 12 December. Accessed at <a href="http://www.pambazuka.org/en/category/books/44955">http://www.pambazuka.org/en/category/books/44955</a>	Civil society
Nyeléni Declaration. 2007. Accessed at <a href="http://www.world-governance.org/IMG/pdf_0072_Declaration_of_Nyeleni_-_ENG.pdf">http://www.world-governance.org/IMG/pdf_0072_Declaration_of_Nyeleni_-_ENG.pdf</a>	Civil society
Oxfam International. 2008. <i>Another Inconvenient Truth: How Biofuel Policies are Deepening Poverty and Accelerating Climate Change</i> . Oxfam briefing paper no. 114, June 2008. Accessed at <a href="http://www.oxfam.org/en/grow/policy/another-inconvenient-truth">http://www.oxfam.org/en/grow/policy/another-inconvenient-truth</a>	NGO
Oxfam International. 2011a. <i>Growing a Better Future: Food Justice in a Resource-Constrained World</i> .	NGO
Oxfam International. 2011b. <i>Growing a Better Future. Summary</i> .	NGO
Oxfam International (K. Raworth). 2012. Can we live inside the doughnut? Why the world needs planetary and social boundaries. Blog. 13 February 2012. Accessed at <a href="http://blogs.oxfam.org/en/blog/12-02-13-can-we-live-inside-doughnut-why-world-needs-planetary-and-social-boundaries">http://blogs.oxfam.org/en/blog/12-02-13-can-we-live-inside-doughnut-why-world-needs-planetary-and-social-boundaries</a>	NGO
Page, G. [Cargill] 2010. 'Smallholders – Big Impact'. Presentation at the World Food Prize's Norman E. Borlaug Dialogue, October 2010. Accessed at <a href="http://www.cargill.com/news/speeches-presentations/smallholders-speech-at-world-food-prize/">http://www.cargill.com/news/speeches-presentations/smallholders-speech-at-world-food-prize/</a>	Agribusiness
Pan-African Farmers Platform. 2008. 'Final Declaration'. Accessed at <a href="http://www.roppa.info/spip.php?article116&amp;lang=en">http://www.roppa.info/spip.php?article116&amp;lang=en</a>	Farmers' organisation
Pan-African Parliament, PLAAS and IISD. 2011. <i>Making Investment Work for Africa: A Parliamentary Response to 'Land Grabs'</i> . Accessed at <a href="http://www.plaas.org.za/sites/default/files/publications-pdf/land_grabs_africa_en.pdf">http://www.plaas.org.za/sites/default/files/publications-pdf/land_grabs_africa_en.pdf</a>	African policy, NGO, academic
Parsons, K. 2010. 'Food: facts and fantasy' [quotes from Mike Mack, CEO of Syngenta]. Advertising feature. pp. 18–19.	Agribusiness
Phatisa. 2013. 'The African Agriculture Fund'. Web pages and brochure. Accessed at <a href="http://www.phatisa.com/The_Fund_Manager/AAF/">http://www.phatisa.com/The_Fund_Manager/AAF/</a>	Investor
Polman, P. [Unilever] 2011. 'Food security in a changing climate'. Speech at the City Food Lecture, London, 18 January 2011.	Agribusiness
Rabobank International. 2011. <i>Rethinking the F&amp;A Supply Chain</i> . Utrecht: Rabobank.	Investor

ROPPA. 2008. 'Call of farmers and producers of West Africa, members of ROPPA, to heads of states and honourable members of national and ECOWAS parliaments'. Accessed at <a href="http://www.roppa.info/IMG/pdf/Appel_ROPPA_vers_angl.pdf">http://www.roppa.info/IMG/pdf/Appel_ROPPA_vers_angl.pdf</a> ://www.roppa.info/spip.php?article116&lang=en	Farmers' organisation
SADC. 2013. 'Food security' and 'Crop production'. Web pages. <a href="http://www.sadc.int/themes/agriculture-food-security/">http://www.sadc.int/themes/agriculture-food-security/</a>	African policy
Salami, A., Brixiova, Z., Kandil, H. and Mafusire, A. [AfDB] 2011. Towards food security in Africa: challenges, policies, and the role of the African Development Bank. Africa Economic Brief, 2(2). Accessed at <a href="http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Africa%20Econo%20brief%20%28Food%20security%29_Africa%20Econo%20brief%20%28Food%20security%292.pdf">http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Africa%20Econo%20brief%20%28Food%20security%29_Africa%20Econo%20brief%20%28Food%20security%292.pdf</a>	African policy
Schaffnit-Chatterjee, C. [Deutsche Bank Research] 2012. 'Foreign investment in farmland: no low-hanging fruit'. DB Research Issues. Frankfurt: Deutsche Bank Research. Accessed at <a href="http://www.dbresearch.com">www.dbresearch.com</a>	Investor
Schoneveld, G. 2011. <i>The Anatomy of Large-scale Farmland Acquisition in Sub-Saharan Africa</i> . CIFOR Working Paper 85. Bogor: CIFOR.	NGO, international policy
SIFCA. 2009. Sustainable Development Report. Abidjan: SIFCA. Accessed at <a href="http://www.groupe-sifca.com/pdf/rapport_dd_09.pdf">http://www.groupe-sifca.com/pdf/rapport_dd_09.pdf</a>	Agribusiness
SIFCA. 2012. 'Palm world meets at POC 2012, Kuala Lumpur'. SIFCA News, 9, p. 10. Accessed at <a href="http://www.groupe-sifca.com/pdf/sifcanews_9.pdf">http://www.groupe-sifca.com/pdf/sifcanews_9.pdf</a>	Agribusiness
Smith, G. and Shah, R. [New Alliance] 2012. 'New Alliance for Food Security and Nutrition'. The White House Blog, 18 May. Accessed at <a href="http://www.whitehouse.gov/blog/2012/05/18/new-alliance-food-security-and-nutrition">http://www.whitehouse.gov/blog/2012/05/18/new-alliance-food-security-and-nutrition</a>	International policy
Standard Bank. 2011. 'The five trends powering Africa's enduring allure. Trend 4: Africa's dormant resources potential'. <i>Africa Macro Insights and Strategy</i> , 6 October 2011.	Investor
Syngenta. 2013a. 'Businesses & Markets'. Web page. <a href="http://www.syngenta.com/global/corporate/en/news-center/company-profile/Pages/businesses-and-markets.aspx">http://www.syngenta.com/global/corporate/en/news-center/company-profile/Pages/businesses-and-markets.aspx</a>	Agribusiness
Syngenta. 2013b. 'Helping growers meet global challenges'. Web page. <a href="http://www.syngenta.com/country/za/en/syngenta/sustainableagriculture/Pages/SustainableAgriculture.aspx">http://www.syngenta.com/country/za/en/syngenta/sustainableagriculture/Pages/SustainableAgriculture.aspx</a>	Agribusiness
The White House. 2012. 'Fact sheet: G-8 action on food security and nutrition'. Press release, 18 May. Accessed at <a href="http://www.whitehouse.gov/the-press-office/2012/05/18/fact-sheet-g-8-action-food-security-and-nutrition">http://www.whitehouse.gov/the-press-office/2012/05/18/fact-sheet-g-8-action-food-security-and-nutrition</a>	International policy
Thunell, L. [IFC] 2012. Letter from IFC. <i>Handshake</i> , 5, p. 1.	Investor
Tonelli, D. [Chayton Capital] 2011. 'Africa and the world food crisis: time to focus on solutions'. <i>Frontier Market Intelligence</i> , 7 September.	Investor
Tongaat Hulett. 2009. <i>Annual Report 2008</i> . Tongaat: Tongaat Hulett.	Agribusiness
UNECA. 2013. <i>Making the Most of Africa's Commodities: Industrializing for Growth, Jobs and Economic Transformation. Economic Report on Africa 2013</i> . Addis Ababa: Economic United Nations Economic Commission for Africa.	African policy
Vegarra, G. and Moses, G. [IFC] 2012. Feeding the future. <i>Handshake</i> , 5, pp. 6–8	Investor
Von Braun, J. and Meinzen-Dick, R. [IFPRI] 2009. "Land Grabbing" by Foreign Investors in Developing Countries: Risks and Opportunities. IFPRI Policy Brief 13, April 2009.	International policy
Wheaton, B. and Kiernan, W.J. [Global AgInvesting] 2012. Farmland: An Untapped Asset Class? Global AgInvesting, December 2012. Accessed at <a href="http://www.globalaginvesting.com/ResearchInsights/detail?contentid=2665">http://www.globalaginvesting.com/ResearchInsights/detail?contentid=2665</a>	Investor
Whitby, P. 2010. 'The great food fight' [quotes from Susan Payne of Emergent Asset Management]. <i>BBC Focus on Africa</i> , October–December, pp. 44–46.	Investor
Wiggins, S. [ODI] 2010. 'Thoughts ahead of World Food Day'. Podcast. Accessed at <a href="http://www.odi.org.uk/opinion/5082-thoughts-ahead-world-food-day">http://www.odi.org.uk/opinion/5082-thoughts-ahead-world-food-day</a>	International policy
World Bank (Deininger, K., Byerlee, D. et al.). 2011. <i>Rising Global Interest in Farmland: Can It Yield Sustainable and Equitable Benefits?</i> Washington, D.C.: World Bank.	International policy
World Bank. 2007. <i>World Development Report 2008: Agriculture for Development</i> . Washington, D.C.: World Bank.	International policy



World Bank. 2009. <i>Awakening Africa's Sleeping Giant: Prospects for Commercial Agriculture in the Guinea Savannah Zone and Beyond</i> . Washington, D.C.: World Bank.	International policy
World Bank. 2010. 'New World Bank report sees growing demand for farmland'. Press release, 7 September. Accessed at <a href="http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/">http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/</a>	International policy
World Economic Forum. 2010. <i>Realizing a New Vision for Agriculture: A Roadmap for Stakeholders</i> . Prepared in collaboration with McKinsey and Co. Cologny/Geneva: World Economic Forum. Accessed at <a href="http://www.weforum.org/issues/agriculture-and-food-security">http://www.weforum.org/issues/agriculture-and-food-security</a>	Agribusiness
Yara International. 2012. <i>Yara Financial Report 2011</i> . Oslo: Yara International ASA.	Agribusiness
Yara International. 2013. 'Africa engagement'. Web pages. <a href="http://www.yara.com/sustainability/how_we_engage/africa_engagement/index.aspx">http://www.yara.com/sustainability/how_we_engage/africa_engagement/index.aspx</a>	Agribusiness
Zeder Investments. 2012. <i>Annual Report 2012</i> . Stellenbosch: Zeder Investments Ltd. Accessed at <a href="http://www.zeder.co.za/uploads/active/0/Zeder%20Investments%202012%20Annual%20report.pdf">http://www.zeder.co.za/uploads/active/0/Zeder%20Investments%202012%20Annual%20report.pdf</a>	Investor
Zeder Investments. 2013. 'Background' and 'Investing in Zeder'. Web pages. <a href="http://www.zeder.co.za/index.php?q=node/8">http://www.zeder.co.za/index.php?q=node/8</a>	Investor

This **Working Paper** was written by **Ian Scoones, Rebecca Smalley, Ruth Hall, Dzodzi Tsikata** for the **Future Agricultures Consortium**. The FAC Working Paper series publishes work in progress by FAC members. All papers are technical research papers which have been peer reviewed, and are available in open access format. The series editors are **Paul Cox and Rebecca Pointer**. Further information about this series of Working Papers at: [www.future-agricultures.org](http://www.future-agricultures.org)

The Future Agricultures Consortium aims to encourage critical debate and policy dialogue on the future of agriculture in Africa. The Consortium is a partnership between research-based organisations across Africa and in the UK. Future Agricultures Consortium Secretariat at the University of Sussex, Brighton BN1 9RE UK T +44 (0) 1273 915670 E [info@future-agricultures.org](mailto:info@future-agricultures.org)

*Readers are encouraged to quote or reproduce material from Future Agricultures Briefings in their own publications. In return, the Future Agricultures Consortium requests due acknowledgement and a copy of the publication.*



The views expressed do not necessarily reflect the UK Government's official policies.