

Full Length Research Paper

Agricultural land grabs in Africa: Scope, patterns and investors

Wytske Chamberlain¹ and Christian M. Rogerson^{2*}

¹Postgraduate School of Agriculture and Rural Development, University of Pretoria, South Africa.

²School of Tourism and Hospitality, Faculty of Management, University of Johannesburg, South Africa.

Accepted 16 October, 2012

The activity of land grabbing involves the acquisition or long-term lease of land by investors or foreign governments. The expansion of land grabs has triggered mounting policy and academic interest. Key drivers are globalisation, market liberalisation, and the impacts of food price and oil price increases especially since 2008. As a result, foreign governments are looking for stable sources of food security rather than depending on a volatile world market and commercial investors seek to reap benefits from an increase in food prices and demand in alternative fuels. This article addresses the weak state of data and understanding of the extent of land grabs in sub-Saharan Africa. It analyses the scale, geographic patterns and sectoral patterns of investment based upon a comprehensive database established for projects announced by mid-2011. The production of food crops accounts for the largest area of land allocations, the greatest number of projects relate to biofuels production. It is shown that despite the large investments planned, activity on the ground is limited. The recommendation is for strong government policies in the host countries to ensure large-scale foreign land investment contributes to overall economic development.

Key words: Land grabbing, foreign investment, sub-Saharan Africa, geographical patterns, sectoral patterns.

INTRODUCTION

Since the financial and food price crises of 2008, a new phenomenon which is popularly styled as 'land grabbing' has attracted an increasing tempo of global interest and academic concern (Cotula et al., 2009). De Schutter (2011:249) defines land grabbing as "the acquisition or long-term lease of large areas of land by investors". Likewise, for Zoomers (2010:429) the term land grab refers "to large-scale, cross-border land deals or transactions that are carried out by transnational corporations or initiated by foreign governments". It is made clear that often such transactions can involve the lease (between 30 and 99 years), concession or outright

purchase of large areas of land in other (mainly developing) countries for various purposes. Much controversy surrounds the growth of land grabbing. Carmody (2012) considers that a 'second Scramble for Africa' is underway with resource-rich but land poor countries competing to appropriate large areas of fertile land in developing countries for production purposes. Some observers, however, suggest that the growing volume of foreign investors can bring potential benefits to host economies in terms of introducing new technologies and crops to expand the productivity of land (van der Werf, 2012). Other scholars point to governance issues, questioning the capacity of several of the countries targeted by land grabbing to manage effectively these investments such that they can contribute towards the policy objectives of poverty reduction and rural

*Corresponding author. E-mail: crogerson@uj.ac.za

development (De Schutter, 2011). The consequences of land grabbing can include local communities being forced to endure enclosure or to relocate to more marginal areas (Zoomers, 2010). Most importantly, it is highlighted “the real concern behind the development of large-scale investments in farmland is that giving land away to investors, having better capital to ‘develop’, implies huge opportunity costs, as it will result in a type of farming that will have much less powerful poverty-reducing impacts, than if access to land and water were improved for the local farming communities” (De Schutter, 2011:249).

Existing scholarship points to a number of different drivers that have shaped the expansion of land grabbing (Cotula et al., 2009; Sarris, 2009; von Braun and Meinzen-Dick, 2009). At the root of global land grabs is the adoption of neo-liberal development models under which many national governments in the developing world began processes which liberalised their land markets, a major policy goal in the 1990s. It is argued that the liberalisation of land markets was accompanied by rapid increases in foreign direct investment which triggered the appearance of new actors in the control and use of land (Zoomers, 2010). Carmody (2012:10) avers, therefore, that the phenomenon of land grabbing ultimately is a feature of the current round of globalization related to the deepening commoditization of land. Since the early 2000s, a growing influx has occurred of private investment into the agricultural sector in general and in farmland in developing countries in particular (Blumenthal, 2009; McNellis, 2009). The range of investors is diverse: governments, sovereign wealth funds, investment funds (such as hedge funds and pension funds), large private investors and agribusinesses (McNellis, 2009). With the collapse of the financial derivatives market, portfolio diversification has been a major driver in channelling more funds into agriculture in developing countries where land costs in relative terms have been cheap (Blumenthal, 2009; McNellis, 2009).

The immediate factors which underpin land grabbing are attributed to the escalation of food prices which spiked in 2007 to 2008 and again reached new highs in 2011. Several structural factors contributed to these recent sharp increases of world food prices (Brown, 2009; Sarris, 2009). Amongst the most important are, *inter alia*, expansion of demand occasioned by the continued growth of global population; increased competition for water and land from the advance of urbanization processes; changing consumption patterns for food especially with rising incomes in parts of Asia; declining global food stocks, and, a slowdown in the rate of increase in agricultural productivity consequent upon a complex of factors that include soil erosion, depletion of water sources, climate change and an increasing difficulty to find scientific improvements (World Bank, 2007; Brown, 2009). The food supply situation was

exacerbated by actions taken by certain food exporting nations, such as Argentina, Russia, Thailand and Vietnam, to limit or even ban exports of wheat and rice, thus driving up world market prices.

With supplies to the world food market distorted by major exporters, several food importing countries became concerned about their dependence on the market for their food supply. As De Schutter (2011:251) points out: “the global food price rise of 2007 to 2008 convinced many governments and private commodity buyers that international markets would be less reliable and more volatile in the future, and that these markets could not be trusted to provide a stable supply of food commodities: in order to achieve food security or stability of supply, buying farmland – outsourcing food production – was seen as more interesting than buying on the international markets”. Thus, as a result of limited land and/or water resources, the Gulf States and certain densely populated countries in East Asia (such as South Korea) had to have a rethink of their food security strategy (Görge et al., 2009). Essentially ‘food-insecure’ governments reliant on imports of food to supply their domestic populations sought “to outsource their domestic food production by buying or leasing vast areas of farmland abroad for their own offshore food production” (Zoomers, 2010:434). For example, in order to secure direct control over food supplies the Qatar government established Hassad Food, part of the Qatar Investment Authority, which considers the achievement of food security for Qatar as the first point of its strategic mission (Hassad Food, 2010).

In explaining the surge of land grabs, many authors point also to the additional impacts of high input prices, especially of oil, which further drove food prices higher. In a period of a decade, world oil prices surged from an average of US\$12.28/barrel in 1998 to US\$94.45 average in 2008 and a peak of US\$140.73 in July 2008 (OPEC, 2011). As oil plays a major role in the agricultural sector variously in terms of its application in tillage, irrigation and harvesting (Brown, 2009:8) as well as in the production of nitrogen-based fertiliser and transport (Cotula et al., 2009:53), the price of oil shows a close correlation in trends with that of food. Political instability in the Middle East placed an additional upwards pressure on the world oil price, including the consequences of the 2011 uprising in Libya and tensions surrounding Iran, destabilising supplies and exerting upward pressure on prices. Driven by expected supply constraints, price volatility and negative climatic impacts, a number of governments started vigorously to investigate alternatives to petroleum. This resulted in a burgeoning of demand for the production of biofuels with the introduction or expansion of such crops as jatropha, sugar cane and oil palm (Cotula et al., 2009).

With the financial crisis of 2008, the parallel oil crisis turned agricultural land in much of Asia, Africa and Latin America into a strategic asset that could be used as new

source of profit through the production of biofuels (Zoomers, 2010). Government policies have been considered the main driver behind the growth of biofuel demand (Cotula et al., 2008). Amongst the reasons for governments to implement pro-biofuel policies is energy security, rural development, climate change and export development (Cotula et al., 2008). Policies focus on setting legally binding targets either on a blending mix with traditional fossil fuel (European Union, Canada, Brazil) or absolute volume quantities to be sold in the market (USA) (Sorda et al., 2010). In order to stimulate producers to reach targets, financial incentives have been put in place such as favourable tax rates and subsidies (Sorda et al., 2010).

Overall, therefore, existing scholarship points to several interrelated factors, driving changes in the global agricultural sector. A renewed interest from investors in this sector, including in the developing world, is one of the outcomes, with large-scale foreign land deals in a particular effect. Some drivers are short-term, others are more structural, but all are interrelated. High food prices are expected to remain due to an increase in population with the financial means to consume more protein-rich food. High oil prices will continue to keep food prices high, unless alternative, competitive fuels are found. This situation, in turn, drives the demand for biofuel crops and with it the demand for land, a trend which is enforced by climate change considerations. On the supply side, there are fears that technological developments have been exhausted and that an increase in production must come from bringing more marginal land under cultivation. Nevertheless, both land and water are limited and climate change might reduce the availability of these resources even further, especially in the developing world and sub-Saharan Africa in particular (Fischer, 2009). In addition, these trends will be intensified in the short term by financial speculation and currency developments.

Not surprisingly, currently, several leading international development organisations, including the World Bank, the Food and Agricultural Organisation (FAO), the International Fund for Agricultural Development (IFAD), the International Monetary Fund (IMF) as well as a number of non-governmental organisations (NGOs) are seeking to engage with issues surrounding land grabbing through extended programmes of research and stakeholder discussions. Much policy interest surrounds the introduction of compulsory or voluntary guidelines or responsible codes of conduct (De Schutter, 2011). Nevertheless, it is evident that the impacts of land grabbing often are difficult to assess. Arguably, according to Carmody (2012), these impacts are not pre-determined but rather may depend on specific local conditions, such as pre-existing land uses, government policy interventions (or lack thereof) and local implementation issues. Of critical significance in existing scholarship is that a vital information gap exists concerning the actual extent,

patterns and nature of those land deals which are termed collectively as land grabs. It is the purpose of this paper to address this particular lacuna in existing writings on land grabbing with a focus on sub-Saharan Africa. More specifically, the task in this article is to unpack the scope, actors and patterns of 'land grabs' in Africa for purposes of food and biofuel production. The phenomenon of land grabbing for the production of food or biofuels is acknowledged here as part of a broader "foreignisation of space" which includes also the take-over of land for tourism projects, biodiversity conservation, special enterprise zones or residential estate developments (Zoomers, 2010). Against this background of an international review of the drivers of land grabbing, the African situation is located within the international context and attention centred in particular upon the period of 2004 to 2011 which corresponds to the major events behind the phenomenon of land grabbing.

MATERIALS AND METHODS

A large body of research has been undertaken to establish the actual scale of foreign land investments. Most existing research is based on media articles which are published on two blogs: the GRAIN website (www.farmlandgrab.org) and the International Land Coalition (ILC) website (www.landcoalition.org/cpl-blog/?cat=149). Notwithstanding these initiatives, reliable data is difficult to obtain. Friis and Reenberg (2010) attempted to quantify the scale of large-scale land investment in Africa based on media reports which were posted on the ILC forum. They argue that this information is highly dependent on which deals are reported by the media in the first place and, secondly, on the reliability of the sources used by the media. Furthermore, their analysis disclosed that articles appear in peaks which seemingly relate to the hosting of major events or conferences associated with this topic. Clearly, it is illogical to expect that actual land investments would peak at the same time as these international gatherings; instead, investments are more likely to be spread out in more even fashion.

Other data problems are evident. It is apparent that a large number of projects or land grabs are not reported in the media and even fewer are posted on the ILC blog. For example, compared with Friis and Reenberg (2010) overview, the ILC reported two additional projects in Madagascar totalling 915,000 ha and Ülkenberg (2009) uncovered information on an additional 26 projects, totalling a further 1,620,000 ha, which is mainly based on interviews held with the Economic Development Board of Madagascar (EDBM). This divergence suggests the scale at which large land investment is taking place is far greater than that reported in the media. By contrast, Cotula (2011:12) claims that figures reported in the media are substantially higher than those based on actual field research. For example, it is argued in his research that whereas the media reports deals for a total of 2.4 million hectares in Mali, only about 650,000 ha of land actually have been acquired. These divergences suggest that another factor needs to be taken into account when assessing figures on large-scale land investments, naming that many media articles discuss plans or intentions. Many of these projects are never actually signed, or if implemented are rolled back. Lack of reliability is quoted by many authors as one of the main obstructions to establish a clear picture of the extent of large-scale FDI in land. In general, the contracts signed are mostly kept confidential. Both the investor and

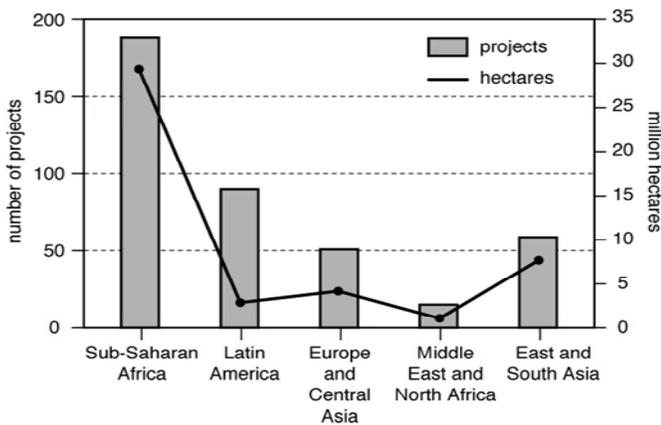


Figure 1. Frequency distribution of projects and total land area by destination region. Source: Based on World Bank, 2010.

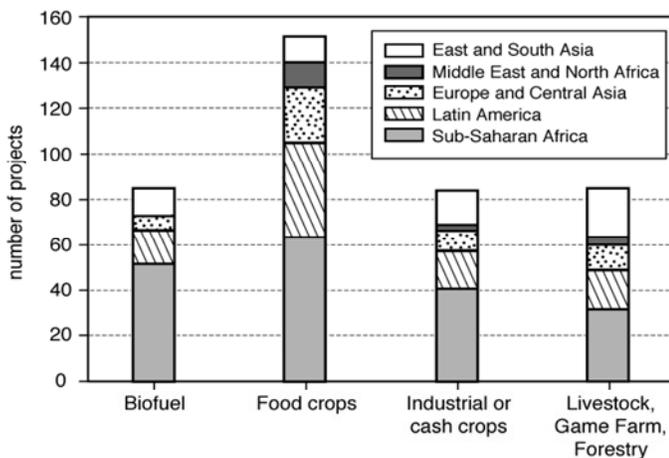


Figure 2. Frequency distribution of projects and total land area by crop, Source: Based on World Bank, 2010.

host country are reluctant to share information. In addition, host governments do not always have the resources or infrastructure available to fully capture all land investments, adding to the unreliability of available data (Cotula et al., 2009). Furthermore, where contracts are available, documents do not seem adequate and lack vital data such as the exact location of the project area (Cotula, 2011). One exception is Liberia where many “contracts have been ratified by parliament and are available on-line” (Cotula, 2011:2). Likewise, in 2011 the Ethiopian Ministry of Agriculture and Rural Development released a number of contracts onto their website.

This study has reduced the unreliability of data by triangulating information where possible, particularly through verifying data with information on the websites of investors. Media reports mentioned out on a much smaller scale than originally announced. on the GRAIN and ILC blogs have been cross-checked with the original source and the investor’s website. Where applicable, activities published on corporate websites have been taken as leading in building up the database. Projects which could not be verified in a

second source have largely been labelled as ‘planned’ or ‘discontinued’. In addition to information published in the media, the findings from a number of detailed micro-level empirical studies have been taken into consideration in order to create a comprehensive picture. The status of projects has been updated using newly available information. The result is a comprehensive database for mid-2011 which allows an analysis of the trends in large-scale agricultural land investments by foreign investors, in particular for sub-Saharan Africa. For each project, the data base includes information on host country of investment, name of investor, source country of investment, size of investment in terms of project area, type of land use, and status of project, whether a signed project, in planning stage or operational phase.

RESULTS

The results of this research are analysed and discussed in terms of four major themes; the position of Africa within the reported scale of global investments; a detailed analysis of the scope and geography of investment in Africa; the nature and origin of investors, and, the characteristics of the utilisation of land, whether for purposes of food crop or biofuel production.

Africa in the global context

Due to the above-mentioned problems of data reliability, different reports reveal conflicting numbers. One recent attempt to map the trends in global large-scale land investment is that by the World Bank (2010). The Bank’s material is based on media articles published on the GRAIN blog during the period between 1st October 2008 and 31st August 2009, which are combined with further field study.

The data provided by the World Bank relates to the ‘foreignisation of space’ and thus incorporates investments for purposes also outside of agriculture and biofuels. Nevertheless, the World Bank investigation provides a useful baseline of material and starting point from which to situate a more detailed examination of current developments taking place in Africa relating to food and biofuels Figure 1 captures the key global picture in respect of both the numbers of projects and their size by destination regions. Figure 2 unpacks the data by estimates of different forms of land utilisation. The analysis discloses that most activity takes place in Africa with Latin America and East and South Asia also playing significant roles. The largest share of projects focus on food production (37%) followed by an equal share of 21% for both industrial/cash crops and biofuel crops. Game reserves, livestock and forestry make up the remainder of the projects. Based on triangulation of existing sources, it is calculated that by mid-2011 foreign investors were showing interest in a total area of over 53 million hectare worldwide (Van der Werf, 2012). The list of destination countries worldwide is extensive with representation

Table 1. Main host countries of large-scale foreign land investment.

Recipient country	# Deals	Area (1.000 ha)	% Land agriculture
Ethiopia	28	1.456	4.2
Madagascar	27	3.720	9.1
Mozambique	22	11.066	22.7
Sudan	12	2.151	1.6
Brazil	20	1.908	0.7
Argentina	9	510	0.4
Russia	18	3.780	1.8
Ukraine	8	922	2.2
Cambodia	12	906	16.3

Sudan includes South Sudan, Source: Own compilation; FAOSTAT (2011).

mainly from the developing world and transitional economies. Table 1 attempt to provide a profile of the number of deals, project areas and proportion of land in relation to agricultural land for several of the leading recipient countries for which reasonably accurate information is available. It should be noted that the data for Mozambique includes the negotiated deal for an offer of 10 million hectares to Agri SA, a commercial farming cooperation based in South Africa. As the next section reveals, this organisation has played an increasingly important role in shaping the patterns of 'land grabbing' in sub-Saharan Africa. The next sections turn to a more detailed analysis of the scale and characteristics of these activities in Africa.

Scale and geography

An interrogation of African data and sources reveals that the extent of large-scale land investment is uneven geographically and differs widely between countries. Some countries, such as Ethiopia, Mozambique and Madagascar, receive much investor interest, whereas others such as Namibia have no reports of foreign land investment. The nature of the investments also varies greatly with some countries receiving more food investment, whereas others mainly target fuel crop production. It is also shown that the investors originate from a wide range of countries. Further, it is argued that despite large investor interest, importantly the number of projects that have progressed to the implementation stage is limited.

In total, it is calculated that by mid-2011, nearly 39 million hectare of land across the African continent has been reported either to be the topic of negotiation or already is managed by foreign investors. Table 2 provides details of the eight countries with the largest land area targeted by foreign investors. The table also includes the number of projects and the percentage of agricultural land that covered by the reported deals. In

Some cases, such as Madagascar and Ethiopia, numerous investors have shown intentions to procure land, whereas in others, for example the Republic of the Congo and Uganda, the number of projects is limited and dominated by one single, very large, investment. It should be appreciated that the reported figures for Mozambique and especially the Republic of the Congo are skewed by the enormous areas (10 million hectare in both countries) potentially assigned to the South African farmers organisation Agri SA.

The countries listed in Table 2 are amongst those with the highest area of land available for cropping, currently not cultivated and with low population density as identified by Fischer and Shah (2010). This implies that these countries have large areas with agricultural potential. There is, however, no direct relationship between agricultural potential and level of foreign investment for agricultural purposes. For example, the DRC and Angola are estimated to have large areas of land with agricultural potential but receive little attention from foreign investors looking for agricultural ventures. Ethiopia on the other hand is listed very high amongst investors. It is likely that political stability is of importance to investors and not only availability of agricultural potential. Table 2 also shows that the area earmarked for foreign investors can cover a significant amount of agricultural land available in the country. The amount ranges from 1.6% in Sudan to nearly all the agricultural land available for the Republic of the Congo. Several reports examine the percentage of land planned for foreign investment as compared to arable land. Arable land only takes into account land under temporary crops and pastures and market gardens; it does not include land under permanent crops and pastures. In Madagascar, Mozambique and the Republic of Congo, more than all arable land is potentially allocated to overseas investment projects. This means that to accommodate all the plans from foreign investors, land currently under permanent grazing (mostly communal grazing grounds) and possibly forests, will have to be

Table 2. Top-8 host countries in Africa.

Host	Area (1.000 ha)	# projects	% Land agriculture
Mozambique	11.036	22	22.4
Republic of Congo	10.040	3	95.1
Madagascar	3.719	28	8.3
DR Congo	3.048	3	13.6
Zambia	2.677	9	11.5
Sudan	2.151	12	1.6
Ethiopia	1.456	28	4.2
Uganda	1.024	4	7.3

Sudan includes South Sudan. Source: Own compilation; FAOSTAT (2011).

Table 3. Land area by status of investment for top African host countries (1,000ha).

Host country	Planned	Signed	Operational	Discontinued	Unknown	Total
Mozambique	9.100	1.780	55	101		11.036
Republic of Congo	9.800	200			40	10.040
Madagascar	140		498	2.145	937	3.720
DR Congo		2.868			180	3.048
Zambia	445	25	172	2.035		2.678
Sudan	500	954	672	25		2.151
Ethiopia	225	470	662		100	1.456
Uganda	1.020		5			1.025
Ghana		50	576	150	10	786
Gabon		300	400			700
Total top 10	21.335	6.987	2.858	4.451	1.267	36.898

Source: Own compilation.

converted into crop land. The large percentage of agricultural land potentially allocated to foreign investors is indicative of a lack of coordination by the national governments that fail to integrate foreign investment into a wider land and agricultural policy and can have severe impacts on the land available to local, smallholder farmers.

There are numerous examples to illustrate that despite the perceived abundance of land, conflicts do arise. In their study on the (now discontinued) operation of ProCana in southern Mozambique, Borrás et al. (2011) noted that part of the land allocation was already assigned to the relocation of people previously living in the newly formed Limpopo National Park. It was observed that "The fact that ProCana was nonetheless allocated land in conflict with pre-existing land use planning raises issues ... as to which of the competing interests (biofuels, natural park, resettled communities) were being prioritised" (Nhantumbo and Salomão, 2010:27). In addition, the company was reported to encroach on the land the local population used to getwood to build their houses (Nhantumbo and Salomão,

2010). The ProCana case prompted Borrás et al. (2011:216) to argue that "the notion of existing, available marginal lands is fundamentally flawed".

Despite the large figures shown in Table 2, the actual situation on the ground is not as great in terms of affected land area. This is due to the fact that numerous projects have been discontinued, are not yet signed or not yet operational as illustrated by Table 3. In Mozambique and the Republic of the Congo, only a small amount of the 10 million hectare has been signed over to Agri SA. Indeed, out of the 10 million hectare of land which is potentially available, only contracts covering one million hectare in Mozambique and 200,000 ha in the Republic of the Congo so far have been signed over by the national government (Hall, 2011; Pearce, 2011). Similarly, in Madagascar fewer than 15% of the reported investments are operational, possibly due to the volatile political situation. Ethiopia is the country with the highest percentage of operational projects covering more than 45% of the area with an additional 32.3% as signed deals. One example of a large project in operation is Karuturi, an Indian company initially focused on the growth of roses,

but now involved in the growth of food crops in Ethiopia (UNCTAD, 2009). The company has signed a 50-year lease for 100,000 ha with an option on a further 200,000 ha, which has been contested unsuccessfully by the national government of Ethiopia (Davison, 2011). In the three years since its inception, 65,000 ha have been brought under production (Davison, 2011).

It should be understood that once project operations commence several years can elapse before the full land area is brought under production. Several examples can be cited to illustrate this point. The private equity fund Citadel Capital had only less than 1,000 ha out of a total of 211,000 ha under production on its Sudan land in 2011 (Citadel Capital, 2011). Further, three years after signing the land deal, Sino Cam Iko, a Chinese company owning 10,000 ha in Cameroon for the production of rice and other food crops, was still in the “experimental phase”, according to the interim company director (Afronline, 2009). Even after deals have become operational, difficulties can cause early project closure. For example, during 2007 a London-based company signed a 30,000 ha, US\$510 million dollar projects under the name of ProCana to grow sugar cane for ethanol production in Mozambique. Despite the aim of the Mozambican government to replace fossil fuels, up to 80% of the ethanol produced by ProCana would be exported to other countries in the region, mainly to South Africa (Borras et al., 2011). Although situated in a dry part of the country, the company was granted land with high agricultural potential, next to a large dam from which water could be extracted for irrigation purposes necessary for the production of sugar cane. The activities would offer 7,000 employment opportunities, although this would depend on the laws regarding environmental, labour and safety regulations imposed by the government. By August 2009, ProCana had cleared 850 ha of land and planted a 25 ha nursery with several varieties of sugar cane (Borras et al., 2011). In October 2009, the main investor withdrew from the project and at the end of that year, after less than three years since the signing of the contract, the Mozambican government closed down the ProCana operations due to non-compliance with the investment plan. Apparently the loans required for the investment became difficult to obtain at a time when oil prices increased and the world economy turned into recession (Nhantumbo and Salomão, 2010).

Various reasons account for the slow uptake of activities. In numerous cases, foreign investors aim to grow crops not indigenous to the region of investment. The first years of operation are to pilot how best to establish an efficient operation. *Jatropha* is an example of such a “foreign” crop and many projects have struggled with a range of issues such as diseases, pests and generally low productivity (Pohl, 2010). Financial obstacles also explain why large-scale land investments do not reach operational status. This has been the case

in particularly the biofuel industry where the rise in crude petroleum has made biofuels uncompetitive. Pohl (2010) lists a number of projects which failed to secure sufficient funding to expand activities. Lastly, protests by the local population have been responsible for a delay or even cancellation of agricultural activities by foreign investors. Daewoo Logistics, who had signed a lease agreement with the Malagasy government for 1.3 million hectare, was forced to cancel this project after the local people protested to the loss of access to land (Üllenberg, 2009). Governments have been blame partly for the failure of large-scale investment projects by granting leases without sufficient screening of investment plans and not taking local land rights into account (World Bank, 2010). Due to these factors and the large labour force required, it is likely that on very large concessions only part of the land will be brought actually under cultivation.

The investors

In common with the wide geographical spread of investors, Zoomers (2010) noted the global scale of land grabbing in Africa and a large number of investors from many countries have signed land deals. As Table 4 shows, most projects are driven by European investors, followed by Asian, African and Middle Eastern investors. Due to the two Agri SA projects, the largest land area covered is by African investors. Asian projects cover a larger area than European; the average size of an Asian investment, over 270,000 ha, is considerably larger than that of a European project, under 70,000 ha. Middle Eastern investors are between these two with an average of over 110,000 ha per project.

The UK is the home base of most European investors. UK companies are reported to have interests in 23 projects spread over 11 African countries. The majority of investors are privately owned biofuel companies such as D1 Oils and Sun Biofuels. D1 Oils has initiated projects in four countries: Madagascar, Malawi, Tanzania and Zambia. By 2011 however, the company had discontinued its activities in Madagascar and Tanzania and greatly reduced operations in Zambia (van der Werf, 2012). Somdiaa, a French based sugar company, grows sugar cane in four countries in West Africa. The average size of their operation is less than 10,000 ha, relatively small compared to other projects. GEM Biofuels from the UK with a 492,500 ha holding in Madagascar (GEM Biofuels Plc, 2009) and Norwegian based ScanFuel Africa, which has signed a deal for 400,000 ha in Ghana for *jatropha* production (Dogbevi, 2010), manage the existing largest African operations. Due to the ScanFuel deal, Ghana is the country with the second largest area (partly) under operation, after Ethiopia.

As a whole, China and India are the most prolific investors from Asia with a total of 11 and 14 projects

Table 4. Number of projects and area covered (1,000ha) by host region in Africa and investor region.

Host region	East		South		West		North	
Investor region	# project	Area	# project	Area	# project	Area	# project	Area
Europe	15	631	38	2.790	15	1.191		
Asia	15	734	12	7.150	7	1.336		
Africa	10	1.817	12	20.435	2	240	1	35
Middle East	18	1.894	3	135	1	100	4	762
North America	6	812	4	338	2	82		
Pacific			1	120				
South America	1	17						
Unknown			1	80				

This data includes discontinued projects. Source: Own compilation.

respectively. Whereas Chinese investments are spread across the continent, Indian investments are concentrated spatially in Ethiopia (Carmody, 2012). The largest investments, however, are 2.8 million hectare which was signed by Chinese telecommunications firm ZTE International in the Democratic Republic of Congo, plans for a two million hectare deal for biofuel by an undisclosed Chinese company in Zambia which have not been pursued, and the much reported 1.3 million hectare leased by South Korean Daewoo in Madagascar. These three projects account for the large area which is covered by Asian investors in southern Africa, but have either been cancelled or have never come off the ground. This situation illustrates that projects can be unrealistically large and that these plans have a high failure rate compared to smaller projects. Such extensive areas are hard to manage, require a large labour force and are likely to cause conflict with the local population as there are few places where such large areas are unused. Not all projects from Asian investors are on such an enormous scale. A growing number of small commercial farmers from the Indian state of Punjab, where farmland is becoming scarce, are relocating to land secured in Ethiopia (The Economic Times, 2010).

Beyond Chinese and Indian agro-investors, other large investors from Asia are palm oil companies originally from Singapore and Malaysia, which are diversifying into other industrial (food) crops. For example, Sime Darby has shown interest in establishing rubber plantations in Liberia and Cameroon totalling 550,000 ha (Sime Darby, 2011), whereas Singapore based Olam International has signed two deals in Gabon totalling an area of 700,000 ha for timber and palm oil production (Olam International, 2007). These companies operate equally large areas in South-East Asia, an experience that can decrease the risk of non-usage as seen with other investments of such a scale.

Investment from countries in the Middle East is largely concentrated in the East African region, particularly in

Ethiopia and Sudan. It has been argued that this portion of investments is due to its close geographical proximity (Cotula et al., 2009). Because of their limited water resources, the Gulf States are highly dependent on the world market for their food crops, a dependency they want to reduce after the food price increases from 2008 (Rice, 2009; Smaller and Mann, 2009). Investors range from private investment funds such as Tiris Euro Arab from the UAE which manages 700,000 ha in Morocco for the growth of crops for the Middle Eastern and European markets (Gulf Times, 2010), to government related investors such as Qatari based Hassad Food which operates a 100,000 ha food growing venture in Sudan (Hassad Food, 2010).

It is significant that not all investment in Africa is made by investors from outside the continent. Investors from South Africa and Egypt are reported to be planning, have signed or are operating 20.5 and 1.7 million hectare respectively. This finding makes South Africa the largest investor on the continent as indexed by land area allocations. Although South Africa is the largest investor from a surface point of view, the number of deals linked to this country is smaller than that of either the UK or India. This is due to the fact that the South African projects are concentrated on one single investor, namely the commercial farmer's organisation Agri SA. This particular organisation reportedly has signed deals for 200,000 ha in the Republic of Congo (Brazzaville) with the option to expand this to 10 million hectare (Hall, 2011; Reuters, 2011). The government of the Republic of Congo aims to decrease the import of food through this project, although the deal also incorporates concessions for export (Hall, 2011). Furthermore, farmers belonging to Agri SA are in the process of developing one million hectare in neighbouring Mozambique (Pearce, 2011). It is reported that the total area to be used by South African farmers will cover 10 million hectare at a later stage (Görge et al., 2009). According to the Eenergy International Corporation (2008:22), "Five million hectares

Table 5. Number of projects by crop for top-10 African host countries.

Country	Fuel	Food	Food + Fuel	Industrial	Unknown
Madagascar	17	3	2	6	
Ethiopia	16	6	2	1	3
Mozambique	10	5		6	1
Sudan		9	1		2
Tanzania	4	4		1	
Zambia	4	3	2		
Ghana	5	2			
Kenya	3	2			
DRC	1			2	
Rep of Congo	1	2			
Total	61	36	7	16	6

Source: Own compilation.

of land are currently under production and land available for expansion of production ranges from 10 million to as much as 19 million hectares". The deal with Agri SA would occupy most of this available land. Overall, by early 2010, the organisation was in negotiation with 22 countries across the continent for proposed land deals (Reuters, 2010a, b). Because the details on these plans other than the Republic of the Congo and Mozambique are unknown, they are not included in this study.

What sets the nature of the largest South African deals apart from other projects is the fact that the agreements are made by an umbrella organisation which represents individual farmers rather than single investors looking for land to farm as one operation. The South African farmer's organisation is involved in signing agreements with host countries, which in turn simplifies the process for individual farmers to establish themselves in a new country, especially in terms of title deeds (Agri SA, 2010). The organisation has launched AgriSaMoz in order to create a single platform which will represent the interests of South African farmers and agribusinesses (AgriSaMoz, 2011:1). According to the Agri SA deputy president by 2011 over 800 South African farmers had already established themselves in Mozambique with a further 800 in the process of finalising deals (Reuters, 2011).

Not only is the institutional arrangement of these investments, using an umbrella organisation for individual farmers, different from other large-scale investments, the drivers also differ from those discussed earlier. Under apartheid, white commercial farmers had been privileged with a range of government support programmes, including subsidies, favourable pricing, and cheap credit (Hall, 2011). With the end of apartheid, these white commercial farmers not only had to deal with deregulation of the agricultural sector, but also faced an increase in prices for inputs (Hall, 2011). In addition, the rights of farm workers were extended and land reform and distribution became a topic on the political agenda

(Walker et al., 2010). Such a changing political environment prompted groups of white farmers to look at potential farming opportunities in other African countries to continue farming (Hall, 2011). Aside from these push factors, Agri SA claims that land agreements with African countries are to diversify South African farmers' business, assist small farmers in the host countries to establish their own commercial farms and to stabilize the African continent by exchanging skills and technology (Sharife, 2010). Thus, Agri SA sees the expansion into the continent as a way to contribute to the development of the host countries (Agri SA, 2010), a position which is shared by a number of African governments who have approached the organisation for assistance in reaching national food security. The Republic of Congo specifically stated that the Agri SA deal is part of a stimulus plan for agricultural development in the country (SAPA, 2009). Host governments are likely to be attracted by the expertise of the South African farmers. In addition, the farmers are not part of a government driven strategy to secure a stable supply of food for South Africa, increasing the likelihood of the crops being sold in the domestic market. The Congo deal nevertheless does allow for full export of crops and one objective for the South African farmers is to grow tropical fruits for the European market (Hall, 2011). Lastly, rather than having one enormous operation, the land allocated to Agri SA will be divided amongst many farmers, resulting in much more manageable farm sizes

Use of land

It is evident from Table 5 that the majority of the investments in Africa is for biofuels production; in total 68 out of the total 139 projects are wholly or partially for purposes of fuel production. A total of 43 deals are reported to be for food production (wholly or in part) with

Table 6. Area covered by crop for top-10 African host countries (1,000ha).

Country	Fuel	Food	Food + Fuel	Industrial	Unknown
Madagascar	1.518	435	1.310	457	
Ethiopia	957	361	42	25	71
Mozambique	288	10.097		641	10
Sudan		1.189	84		878
Tanzania	148	196		100	
Zambia	2.535	53	90		
Ghana	765	21			
Kenya	503	47			
DRC	2.800			248	
Republic of Congo	40	10.000			
Total	9.553	22.389	1.526	1.471	959

Source: Own compilation.

a further 16 for industrial crops such as rubber and palm oil. It should be observed that 7 projects combine food and fuel crops, mostly sugar production that also can be used for bioethanol.

Table 6 gives an overview of the number of projects per country grouped by crop for the ten African countries with the highest number of deals. From an area perspective, it is clear that most land is targeted for food production. This situation is mainly due to the two large deals being negotiated by Agri SA as discussed above.

Deals regarding biofuel crops, especially jatropha, are concentrated in Madagascar, Ethiopia and Mozambique. Many host countries in Africa actively seek to attract biofuel companies through incorporating FDI promotion for land in their policies (Görge et al., 2009; FIAN, 2010). For example, after actively promoting biofuels as part of the Rural Development Strategy of 2007, the Mozambique government tried to balance the large demand for land by biofuel producers with social and environmental considerations through the publication in 2009 of a National Policy and Strategy for Biofuels document (Nhantumbo and Salomão, 2010). Despite the aim of the government to replace imported fossil fuels with locally produced biofuels, it still allowed ProCana to lease 30,000 ha for ethanol production of which 80% would be exported, thus contributing only marginally to national fossil fuel replacement and possible electrification of rural areas (Borras et al., 2011). In Ethiopia, although not actively pursuing biofuel growth, the government does not object to such projects as they are in line with the wider agricultural strategy to earn foreign exchange and to produce inputs for domestic industry (Lavers, 2011). Before the political unrest in 2009, Madagascar followed a general policy to attract foreign investment as a generator of economic growth and welcomed biofuel investment as part of this strategy (Perrine et al., 2011). However, the example of Kenya

illustrates that government endorsement for biofuels is in itself insufficient. After emphasising the strategic position of jatropha in particular (Government of Kenya, 2008), a concise policy to channel this support has not been forthcoming. Kenya only has a limited number of international jatropha investors. The few companies that did initiate projects were pulling out in 2010 due to high costs and a lack of markets (Hunsberger, 2010).

It is evident that Africa's biofuel investors are mainly based in Europe, specifically the UK and Italy, followed by Israel, India and China (Table 7). The average size of European biofuel projects is significantly smaller than those of Chinese investors at over 1.7 million hectare. In the DRC, the telecommunications firm ZTE reportedly signed a contract covering 2.8 million hectare (The Associated Press, 2008). This said, aiming to verify this deal Brautigam (2010) finds little proof, certainly not on the large scale claimed in the Associated Press article. Similar reports of a 2 million hectare investment in Zambia is denied by the Biofuel Association of Zambia (BAZ, 2010). If confirmed this would leave the actual activities by Chinese investors considerably less than is often reported.

As evidenced in Table 6, investments in food production projects are concentrated in Sudan and Ethiopia. In terms of the main food investor countries, following South Africa, Egyptian investors have claimed the largest area of land for food crop production in other African countries (Table 8). All four projects operated by Egyptian investors are located in neighbouring Sudan. Egypt is a water scarce country reliant on water from the Nile River and imports most of its staple food, wheat, (Brown, 2011). The drivers for Egyptian 'land grabs' are its growing population and the reduction of the amount of water flowing into the country as more water is used for large agricultural schemes in upstream Sudan and Ethiopia (Brown, 2011). The private equity firm Citadel

Table 7. Investments in biofuel crops by major investor country in African host countries.

Country	# projects	Area (1.000 ha)	Average size (1.000ha)
United Kingdom	16	1.567	98
Italy	9	351	39
Israel	4	270	68
India	4	142	36
China	3	5.200	1.733
France	3	60	20
Germany	3	125	42
Norway	3	560	187
USA	3	85	28

Source: Own compilation

Table 8. Investments in food crops by major investor country in African host countries.

Country	# projects	Area (1.000 ha)	Average size (1.000ha)
South Africa	9	20.387	2.265
UAE	7	842	120
China	6	283	47
India	6	591	98
Saudi Arabia	5	54	11
UK	5	275	55
Egypt	4	1.420	355
USA	4	444	111

Source: Own compilation.

Capital has acknowledged the potential of the Sudanese agricultural sector and established farming operations covering approximately 100,000 ha in both Sudan and the newly established Republic of South Sudan (Ombok, 2011). Controversially, a large contributor to Citadel's funds is the IFC, the private investment arm of the World Bank (McNellis, 2009). The World Bank advises African countries to establish easy access for FDI to generate development. Through the IFC, the World Bank then benefits from this advice (Daniel, 2011). Beyond these private investments, the Egyptian government, wanting to secure food supply for its population, has signed a number of agreements with the Sudanese government in order to boost trade between the countries and is aiming to set up cooperation for food security (AFP, 2011).

Finally, Table 8 provides a profile of the sources of investors in food crop production. In terms of numbers of projects in Africa, the list is headed by South Africa, the United Arab Emirates, China and India. As indexed by land area the leading source investors are currently South Africa, Egypt and UAE. It is observed that India is a major food investor especially in Ethiopia (Carmody, 2012). The Indian government, aiming to reduce its reliance on the world market for its food supply, encourages its businesses to set up operations in

Ethiopia through the provision of cheap credit to the Ethiopian government and the establishment of preferential trade agreements for food imports from the country (Cherian, 2010). Besides a number of large-scale businesses, farmers from the state of Punjab also have been encouraged to move their activities to Ethiopia (The Economic Times, 2010).

DISCUSSION

Among others, Zoomers (2010:429) asserts that the global land grab is a key contemporary development issue. Large-scale foreign land investment has increased considerably in recent years and in some target countries involves substantial areas of their arable land. Although in itself this is not a new phenomenon, the players, the dimensions and the driving forces behind the current ventures are different to those of earlier times.

Historically, private agro-companies gained control over land in foreign countries to take advantage of suitable growing conditions for cash crops. Although these plantations still exist, new players with different objectives have emerged (Carmody, 2012).

Governments concerned about their food security

through rising food prices and new unpredictability of the world food market have adopted policies to obtain land in 'land abundant' countries to grow basic food crops for export back to their own market. This is done either through direct investment or via sovereign wealth funds, state owned enterprises or other institutions. The main players are the Gulf States (such as Saudi Arabia and Qatar), South Korea and China. In addition, private investment funds, banks and other financial organisations are attracted by the portfolio diversification that land investments offer and the anti-cyclical behaviour of agricultural products. Many funds have been established, and new ones are regularly advertised to entice investors to put money into agriculture, specifically into land in developing countries. These financial businesses either obtain control over land directly or fund agricultural operations.

Finally, agribusinesses traditionally involved with downstream activities such as trading and processing, are increasingly moving their business upstream and acquire management of the land on which their crops are grown. The perceived risk-return ratio has changed significantly to make downstream activities more attractive (Selby, 2009). In addition, a range of new businesses has been founded to focus on the production of biofuels, which is a rapidly growing market. These businesses are interested to obtain land to grow the (food) crops to be used as input for fuel production.

It was shown that internationally, the main regions targeted by these investors are the developing countries in Africa, South-East Asia and South America and the transition countries of the former Soviet Union. These countries are attractive either because of their extremely low land costs, high perceived land availability, geographic proximity or fairly stable land markets at competitive prices. Under pressure of institutional organisations such as the World Bank and the IMF, many host governments opened up their land for foreign investment in agriculture (Zoomers, 2010). For many years, despite the importance of the agricultural sector, government investment in this sector has been lacking, resulting in low productivity and an increased dependence on food imports. Many host governments anticipate that foreign direct investments will bring increased food production for the local market, investments in infrastructure and jobs in rural areas.

Within Africa, the main focus of this article, Madagascar and Ethiopia host the highest number of projects whereas Mozambique and the Republic of Congo have allocated (or plan to allocate) the largest land areas to foreign investors. Even though availability of suitable agricultural land seems to be important, political stability plays a major role in the selection of a host country by investors. South Africa, through commercial farmers union Agri SA is the largest investor, whereas the UK is the most prolific investor. Investors intend to grow both fuel and food

crops.

This article found that although many intentions exist for large-scale land investment for agricultural purposes, activities on the ground are very limited. Often plans are either not converted into actual contracts or investors are slow to bring the concession under cultivation. This is particularly the case for "new" crops such as *jatropha* where unexpected issues (pests, disease, low productivity) in the pilot phase prohibit large-scale roll out of operational activities. Financial difficulties and local protests are additional factors which explain the slow uptake of production.

Although a win-win scenario seems the ideal outcome, opposition has been raised to a policy of development through large-scale land investment. Accusations have been made towards both host governments and investors that current land use and land rights of the local population have not been taken into account (De Schutter, 2011). The uptake of activities is slow or fails to materialise at all. In addition, promises on jobs and investments are vague and often not enforceable. Opponents fear for the environmental impact of large-scale land clearing and mono-cropping. Lastly, there are no guarantees that the (food) crops are grown for the domestic market. Institutional mechanisms are rarely in place to prevent the export of (part of) the harvest and in some cases exports are even stimulated. In the case of biofuel crops, these are in direct competition for resources with food crops. Accordingly, rather than increasing the food security of the host country, this might be adversely affected. Host governments need to have a clear policy in place regarding land and agricultural development to ensure that large-scale foreign investment complements economic growth without having a negative impact on the local farmers. Without these policies and a strong government to enforce it, large investors tend to overlook the consequences for the host country, leaving them worse off rather than sharing the benefits of their natural resources.

Conclusion

This article aimed to address the information gap that surrounds 'land grabbing' in contemporary Africa. It was shown that Africa receives a major share of interest from international investors from a range of source countries. Some governments allocate a large proportion of their agricultural land to foreign investors. This can indicate that either these governments do not have a clear policy on land and agriculture or that the reports published are much larger than the deals actually signed. As was observed both by the World Bank (2010) and the IED/FAO/IFAD (Cotula et al., 2009), this analysis confirms that most reports are on projects which are in the planning stage. Only a limited number of land deals

are signed and even less become operational. Projects in Africa range from a few thousand hectares to, in two cases, ten million hectares. The largest projects, such as the Agri SA deals, and those by Chinese biofuel producers, either are still in the planning stage or have been discontinued. Due to the large land offers made to commercial farmer's organisation Agri SA, currently South Africa is the leading investor on the African continent. At present, Mozambique and the Republic of the Congo are the largest hosts for FDI in land. Madagascar, Mozambique, Ethiopia and Sudan are host to the highest number of deals.

The evidence reveals that African countries are targeted for both the production of food and fuel crops with the highest number of projects designated for fuel production, particularly *jatropha*. Projects for both kinds of crops range in size from a few thousand ha to over a million ha. Most biofuel investors originate from the UK and Italy, albeit Chinese investors have shown interest on the largest scale. Apart from the large projects by South African commercial farmers union, Middle Eastern and Asian governments and businesses are the largest food investors. This situation is in line with international trends that these countries are the most dependent on the world market for their food security. It was shown that most African land grab deals are being initiated by Europeans investors, in particular from the United Kingdom. In addition, investors from China and India play a major role, although not as large as frequently reported. In general, Asian investments cover a larger area than projects undertaken by European investors. Both European and Asian investors are largely interested in countries in the region of southern Africa. By contrast, Middle Eastern investors, a number of which are connected to national governments, prefer to target land in Eastern Africa. India, through several government-initiated policies, is actively pursuing private businesses to enter into land deals in Ethiopia in order to increase Indian food security.

In final analysis, the developmental significance of the phenomenon of land grabbing has been demonstrated in contemporary Africa. For agricultural policy makers in the continent further evidenced-based research is required now to understand and interpret in more nuanced fashion the impacts of this continuing 'second scramble for land' in Africa. Of potentially greatest interest in the African policy agenda are the expanding activities of South African investors, which seemingly are expanding because of different drivers to those of other land grab investors.

ACKNOWLEDGEMENTS

The authors thank respectively the University of the Witwatersrand and University of Johannesburg for research support. Wendy Job of the University of

Johannesburg is acknowledged for preparing the accompanying diagrams.

REFERENCES

- AFP (2011). Egypt seeks food and water security in Sudan. <<http://www.farmlandgrab.org/post/view/18360>> (22 January 2012).
- Afronline (2009). Chinese in Cameroon: an agricultural misunderstanding. <<http://www.afronline.org/?p=2908>> (2 February 2012).
- Agri SA (2010). Newsletter, October, Agri SA, Centurion.
- AgriSaMoz (2011). Newsletter, 1/2011, AgriSaMoz, Centurion.
- Atkinson D (2007). Going for Broke: The Fate of Farm Workers in Arid South Africa. Human Sciences Research Council Press, Cape Town.
- Borras SM Jr, Fig D, Suárez SM (2011). The politics of agrofuels and mega-land and water deals: insights from the ProCana case, Mozambique. *Rev. Afr. Political Econ.* 38(128):215-234.
- Blumenthal GR (2009). Investors' perspectives on farmland. In: Land Grab? The Race for the World's Farmland, Woodrow Wilson International Center for Scholars, Washington DC.
- Brautigam D (2010). China and the African "land grab": The DRC Oil Palm Deal. <<http://www.chinaafricainstory.com/2010/03/china-and-african-land-grab-drc-oil.html>> (4 April 2011).
- Brown LR (2009). Plan B 4.0, Mobilizing to Save Civilization. Earth Policy Institute, W W Norton & Company, New York.
- Brown LR (2011). When the Nile Runs Dry, *New York Times*, 1 June 2011.
- Carmody P (2012). A global enclosure: the geo-logics of Indian agro-investments in Africa. Dublin: Trinity College, Department of Geography.
- Cherian J (2010). Grabbing Africa. *Frontline* 27(9):12-14.
- Citadel Capital (2011). Corporate Website. <www.citadelcapital.com> (2 February 2012).
- Cotula L (2011). Land deals in Africa: What is in the contracts? IIED, London.
- Cotula L, Dyer N, Vermeulen S (2008). Fuelling exclusion? The biofuels boom and poor peoples access to land. IIED, London.
- Cotula L, Vermeulen S, Leonard R, Keeley J (2009). Land grab or development opportunity? Agricultural investment and international land deals in Africa. IIED, FAO, IFAD, London/Rome.
- Daniel S (2011). The Role of the International Finance Corporation in Promoting Agricultural Investment and Large-Scale Land Acquisitions. Paper presented at the International Conference on Global Land Grabbing, 6-8 April 2011, LDPI, Sussex.
- Davison W (2011). Ethiopia Says It May Grant Additional Land To Karuturi Global. *Business Week* 5 May 2011. <www.businessweek.com/news/2011-05-05/ethiopiaysays-it-may-grant-additional-land-to-karuturi-global.html> (23 May 2011).
- De Schutter O (2011). How not to think of land-grabbing: three critiques of large-scale investment in farmland. *J. Peasant. Stud.* 38: 249-279.
- Econergy International Corporation (2008). Mozambique biofuels assessment: final report. Report prepared for the Ministry of Agriculture and the Ministry of Energy of Mozambique under contract to the World Bank and Embassy of Italy, Maputo.
- FAOSTAT (2011). Resources – Land. FAO. <<http://faostat.fao.org/site/377/default.aspx#ancor>> (13 April 2011).
- FIAN (2010). Land Grabbing in Kenya and Mozambique. A report on two research missions – and a human rights analysis of land grabbing. FIAN, Heidelberg.
- Fischer G (2009). How do climate change and bioenergy alter the long-term outlook for food, agriculture and resource availability? Contribution to FAO Expert meeting on How to feed the world in 2050, 24-26 June 2009, FAO, Rome.
- Fischer G, Shah M (2010). Farmland Investments and Food Security, Statistical Annex. Report prepared under World Bank IIASA contract – Lessons for the large-scale acquisition of land from a global analysis of agricultural land use, World Bank, Laxenburg.

- Friis C, Reenberg A (2010). Land grab in Africa: Emerging land system drivers in a teleconnected world. GLP Report No. 1, Global Land Project International Project Office, Copenhagen.
- GEM Biofuels Plc. (2009). Company Presentation. GEM Biofuels, Douglas.
- Görge M, Rudloff B, Simons J, Üllenberg A, Vöth S, Wimmer L (2009). Foreign Direct Investment (FDI) in Land in developing countries. Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH, Eschborn.
- Government of Kenya (2008). Strategy for the development of the bio-diesel industry in Kenya 2008-2012. Ministry of Energy, Renewable Energy Department, Nairobi.
- Gulf Times (2010). UAE company leases farmland in Morocco. <http://www.gulf-times.com/site/topics/article.asp?cu_no=2&item_no=327235&version=1&template_id=37&parent_id=17> (21 January 2012).
- Hall R (2011). The next Great Trek? South African commercial farmers move north. Paper presented at the International Conference on Global Land Grabbing, 6-8 April 2011, LDPI, Sussex.
- Hassad Food, 2010: Strategic Focus. <<http://www.hassad.com/Aboutus/strategicfocus/tabid/67/Default.aspx>> (22 March 2011).
- Hunsberger C (2010). The politics of jatropha-based biofuels in Kenya: convergence and divergence among NGOs, donors, government officials and farmers. *J. Peasant. Stud.* 37(4):939-962.
- Lavers T (2011). The role of foreign investment in Ethiopia's smallholder-focused agricultural development strategy. LDPI Working Paper 2, LDPI & PLAAS, Cape Town.
- McNellis PE (2009). Foreign Investment in Developing Country Agriculture – The emerging role of private sector finance. FAO Commodity and Trade Research Working Paper No. 28, FAO, Rome.
- Nhantumbo I, Salomão A (2010). Biofuels, Land Access and Rural Livelihoods in Mozambique, IIED, London.
- Olam International (2007). Corporate Website. www.olamonline.com. (15 April 2011).
- Ombok E (2011). Citadel Capital of Egypt plans to invest more in East Africa. <<http://www.bloomberg.com/news/2011-08-01/citadel-capital-of-egypt-plans-to-invest-more-in-east-africa.html>> (22 January 2012).
- OPEC (2011). OPEC Basket Price. <http://www.opec.org/opec_web/en/data_graphs/40.htm> (24 March 2011).
- Pearce F (2011). South Africa's white farmers are moving further north. *The Guardian*, 1 May 2011, London.
- Perrine B, Mathilde G, Ratsialonana R, Raphael R (2011). Local Informal Agreements: Regulations of and Local Reactions to Agricultural Investments in Madagascar. Paper presented at the International Conference on Global Land Grabbing, 6-8 April 2011, LDPI, Sussex.
- Pohl C (2010). Jatropha: money doesn't grow on trees. Ten reasons why jatropha is neither a profitable nor sustainable investment. Friends of the Earth International, Amsterdam.
- Reuters (2010a). S Africa farmers get land offers in Africa. <<http://af.reuters.com/article/investingNews/idAFJJOE6680LO20100709>> (7 December 2011).
- Reuters (2010b). South African farmers get more land deal offers in Africa. <<http://www.timeslive.co.za/local/article663955.ece/South-African-farmers-get-more-land-deal-offers-in-Africa>> (2 December 2011).
- Reuters (2011). S. African farmers seal Congo deal, wary of N. Africa. <<http://af.reuters.com/article/investingNews/idAFJJOE71K09X20110221>> (2 December 2011).
- Rice X (2010). Ethiopia – Country of silver sickle – offers land dirt cheap to farming giants. *The Guardian*, 15 January 2010.
- SAPA (2009). Huge Congo deal for SA farmers. 22 October 2009.
- Sarris A (2009). Evolving structure of world agricultural trade and requirements for new world trade rules. Contribution to FAO Expert meeting on "How to feed the world in 2050. 24-26 June 2009, FAO, Rome.
- Selby A (2009). Institutional Investment Into Agricultural Activities: Potential Benefits and Pitfalls. Paper presented at the conference "Land governance in support of the MDGs: Responding to new challenges", Washington D.C. 9-10 March 2009.
- Sharife K (2010). The South Africa – Congo concession: Exploitation or salvation? *Pambazuka News*, 7 January 2010. <<http://pambazuka.org/en/category/features/61251>> (14 September 2012).
- Sime Darby (2011). Corporate Website. <www.simedarbyplantations.com> (3 May 2011).
- Smaller C, Mann H (2009). A Thirst for Distant Lands. Foreign investment in agricultural land and water, IISD, Winnipeg.
- Sorda G, Banse M, Kemfert C (2010). An overview of biofuel policies across the world. *Energy Policy* 38:6977-6988.
- The Associated Press (2008). China farms the world to feed a ravenous economy. <<http://farmlandgrab.org/2339>> (22 January 2012).
- The Economic Times (2010). Punjab farmers to acquire 50,000 hectares of land in Ethiopia. <http://articles.economictimes.indiatimes.com/2010-09-17/news/27627147_1_punjab-farmers-potato-growers-pulses> (2 December 2011).
- Üllenberg A (2009). Foreign Direct Investment (FDI) in Land in Madagascar. Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH, Eschborn.
- Van der Werf W (2012). Large-scale foreign land investments in Africa, with particular attention to the case of Zambia. Unpublished MA dissertation, University of the Witwatersrand, Johannesburg.
- von Braun J, Meinzen-Dick R (2009). Land Grabbing by foreign investors in developing countries: risk and opportunities. IFPRI Policy Brief p. 13, Washington DC.
- Walker C, Bohlin A, Hall R, Kepe T. (Eds.) (2010). *Land, Memory, Reconstruction and Justice: Perspectives on Land Claims in South Africa*. Ohio University Press, Athens and University of Kwa-Zulu Natal Press, Scottsville.
- World Bank (2007). *World Development Report 2008: Agriculture for Development*. World Bank, Washington DC.
- World Bank (2010). *Rising Global Interest in Farmland: Can It Yield Sustainable and Equitable Benefits*, World Bank, Washington DC.
- Zoomers A (2010). Globalisation and the foreignisation of space: seven processes driving the current global land grab. *J. Peasant. Stud.* 37:429-447.