KEYNOTE ADDRESS
A global land rush?

Derek Byerlee

Paper prepared for presentation at the “The Scramble For Natural Resources: More Food, Less Land?” conference conducted by the Crawford Fund for International Agricultural Research, Parliament House, Canberra, Australia, 9-10 October 2012

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KEYNOTE ADDRESS

A global land rush?

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Abstract

Recent strong commodity prices have led to rising demand for farmland and this is projected to continue for the medium term because of increasing populations and incomes and growing use of biofuels. Global analysis indicates that about 450 Mha of suitable land may be available to bring into cultivation, much of it in sub-Saharan Africa, Latin America and Russia. Improved returns in farming and relatively cheap land in some countries have translated into a sharp rise in domestic and foreign investment into farmland, largely focused on these same countries with uncultivated land. Investors have been very heterogeneous, with many from emerging countries and some with little track record in agriculture, but supported by rising portfolio investor interest in agriculture. Despite perceptions, governments and sovereign wealth funds make up a relatively small share of such investments. A surprising development, given the long tradition of family farming almost everywhere, has been the rise of corporate ‘superfarms’ often managing over 100,000 ha of prime cropland. Where land and other markets work well, strong investor interest in agriculture represents an opportunity to tap capital, technology and new markets. However, where land governance is poor and institutional capacity weak, there have been many failures, whether measured in economic, social or environmental terms, especially in Africa and South-East Asia. In Australia, given skilled farmers and strong institutions, there seems little reason for concern about recent reports of foreign investment in farmland. Australia has led the world in arguing for freer agricultural trade and investment and should continue to do so. Increased transparency through a register of such investments could alleviate fears in some circles of a foreign ‘land grab’ in Australia.

‘Land rush’ — the term reflects the late 1800s when land was being allocated to settlers in Oklahoma. The 1893 land rush was for the last big area of land being opened by the US Government under the Homestead Act, intended to allow easy access to land by families. While negotiations were taking place, albeit with rather unequal terms for the indigenous owners, tens of thousands of people lined up on the border with Oklahoma, waiting for the negotiations to be completed. Then at midafternoon on 16 September 1893, on the firing of a starting pistol, they set off in a race, and the first one to reach a surveyed block was able to claim that piece of land.

As the human race closes in on the global land frontier today, it is worth wondering if it is entering a somewhat similar chaotic situation, in terms of allocating the land that remains available at the global level.
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This paper discusses first the supply of and demand for land for cropping; then focuses on investment in farmland — particularly large-scale investment — and some of the opportunities and risks associated with that, including in Australia; and finally it looks at some of the policy issues.

Over the last 50 years or so, the big increases in agricultural production have come through improved productivity, especially the productivity of land. Figure 1 shows how agricultural growth over the last 50 years can be divided between expansion of the land area in use and growth in yield, with yield growth further decomposed into input intensifications and growth in total factor productivity (TFP). In three regions, land expansion has been a significant source of agricultural growth: South-East Asia, Brazil and sub-Saharan Africa. Of these, sub-Saharan Africa is particularly problematic because even though agricultural growth there has recently accelerated it is still largely as a result of using more land, rather than through improved productivity.

Looking to the future, how much land can be expected to come into production for cropping? (Pasture land is a separate issue and available data are of poor quality.)

Currently, about 1500 Mha (1.5 billion ha) of land is used for crops. By 2030, estimates made for the World Bank suggest that an additional 120–240 Mha will be needed, for a range of crops including biofuels (Deininger et al. 2011). That estimate does not allow for current cropping land being turned to other purposes in the future, such as urbanisation (Lambin & Meyfroidt 2011). Conversion of cropland to urbanisation and infrastructure could account for as much as 50–100 Mha.

Both cropland and pasture, in unknown proportions, are also being lost through degradation, and those losses are estimated at 30–87 Mha, a significant amount.
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Table 1. Potential availability of uncultivated land in different regions (Deininger et al. 2011).

<table>
<thead>
<tr>
<th>Region</th>
<th>Currently cultivated area (Mha)</th>
<th>Uncultivated area suited to cropping (Mha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-Saharan Africa</td>
<td>221</td>
<td>201</td>
</tr>
<tr>
<td>Latin America and Caribbean</td>
<td>164</td>
<td>123</td>
</tr>
<tr>
<td>Eastern Europe and Central Asia</td>
<td>254</td>
<td>52</td>
</tr>
<tr>
<td>East and South Asia</td>
<td>454</td>
<td>15</td>
</tr>
<tr>
<td>Middle East and North Africa</td>
<td>97</td>
<td>3</td>
</tr>
<tr>
<td>Rest of world including Australia</td>
<td>360</td>
<td>52</td>
</tr>
<tr>
<td>Australia</td>
<td>46</td>
<td>26</td>
</tr>
<tr>
<td>World total</td>
<td>1554</td>
<td>449</td>
</tr>
</tbody>
</table>

In summary, while a substantial amount of extra cropland will be needed, the amount is unclear because of uncertainty about how yields may improve in future, about developments in ‘second-generation’ biofuels and their need for land, and about how much trade will shift patterns of production to more land-abundant regions, as expected in a liberalised regime.

The next question is how much land is available. Deininger et al. (2011) using the database of IIASA* mapped out the land that was of medium to high potential for crop production and currently uncultivated; it was neither forested nor protected, and had a population density of fewer than 25 persons/km². They found that in total there may be about 450 Mha of land with those criteria which potentially could be brought into production (Table 1) — much less than FAO predictions (e.g. Alexandratos & Bruinsma 2012). However, that available uncultivated land is in a relatively few countries: several in sub-Saharan Africa, in Latin America — mainly Brazil and Argentina — and in Russia. The estimate also included around 20 Mha in Australia that might be brought into cultivation (Deininger et al. 2011).

Much of that land, particularly in sub-Saharan Africa is in areas with very poor infrastructure such as roads, and far from ports, which will reduce the profitability of cropping. It may also have unsuitable soils — a situation not captured in a global analysis; much of the apparently available land in Australia seems to be in that category.

Looking at both the predicted demand for land for both farm and non-farm uses, and the estimated land available, it appears the world is approaching the ‘global land frontier’, in terms of land that might be brought into production.

Investing in land
Land costs money, and it has differing values according to the region. In Australia and much of Latin America there are private land markets, but in many countries, particularly in South-East Asia and sub-Saharan Africa, private land

* International Institute for Applied Systems Analysis, based near Vienna.
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Markets are not well developed, and many of the large concessions are being negotiated through government.

Even standardising for land quality in terms of potential crop yields, the annual rent for land capable of producing 3 t soya bean/ha varied very widely in 2010. In Mozambique that land would have no market value, because there is no land price there and the land has been allocated to companies through government mediation for about US $1/ha. In the Ukraine also, land markets work very poorly and the rent would be about US $30/ha/year. In central Brazil, the low rental price (around US $60–80/ha/year) is largely a factor of high transport costs from the interior to the port. By comparison, in Iowa farmers would pay $450/ha/year for land of this quality.

Based on information from Savills** (2012) annual report on farmland prices, Australia has relatively low-priced land and there are potential returns from investing in farmland. Again, standardising for quality using crop yields, the cost to buy land to produce a tonne of wheat in Australia was around $900 in the Savills (2012) report — one of the lowest in the world.

With those sorts of land-price differentials between countries, investment flows going from one country to another are expected. In a situation of land scarcity, investors would be looking for low cost (or lower cost) land. However, the available estimates and statistics are weak in this area. UNCTAD, the United Nations Conference on Trade and Development, collects partial information on Foreign Direct Investment (FDI) in agricultural production. Figure 2 shows that in 2007–08 when there was a food-price spike, there was also a big increase in FDI in farming. Practically all of that was in low- and middle-income countries. More recent data from UNCTAD indicates that trend has continued. However, FDI in farming remains a small proportion of the total FDI in agricultural value chains, with most investment focused on inputs, processing and marketing (Byerlee & Deininger 2013).

** Savills is a global land management and investment advice company.
Another way of estimating the investment in land is in terms of the area acquired. Some of the numbers cited for large-scale land acquisitions by investors in various regions of the world seem to be wildly exaggerated. More believable and fairly well verified is the estimate by the Centre for International Forestry Research (CIFOR; Schoneveld 2011). It finds that since 2005 the amount of land acquired in sub-Saharan Africa by investors (that is, land parcels larger than 2000 ha) was 18 Mha. That is comparable to the area quoted by the World Bank, and certainly less than the area that Oxfam (2011) has been mentioning.

The largest allocation in Africa has been for biofuels; the second largest was for food crops (Figure 3), and within food crops rice was most important.

In some countries, actual ownership of land can be estimated from national statistics, such as those collected annually and published for the USA. Something like 10 Mha of land in the US had some foreign ownership in 2011. It was mostly used for timber and pasture. Large-scale investments can become confused with foreign investments in the media, but in the US several domestic sources, such as big pension funds, are large domestic investors. For instance, TIAFF-CREF, probably the biggest pension fund in the world, is investing quite heavily in farmland. On the other hand, a significant number of US states do not allow corporate investment, neither domestic nor foreign, in farmland.

In Australia the Australian Bureau of Statistics has estimated that 44 Mha is under some form of foreign ownership (Moir 2011). About 43 Mha of that is estimated to be in pastoral areas (Byerlee unpublished), and therefore only 1 Mha of it is in crop land.

The investors in farms are a very mixed group of companies and people. State-owned investments, whether through governments or state companies or sovereign wealth funds, are relatively small at the global level. They are important in some countries like Sudan and perhaps Cambodia, but the major investors are in private enterprise. Those investors include specialised
agribusiness companies and energy companies because of the biofuel connections, and also the portfolio investors. Portfolio investors can manage directly or rent out the land, or invest in the agribusiness and energy companies. Some investors are not interested in farming at all. Instead they are interested in the timber, or in speculation (Table 2).

Generally, investing companies are not the well-known global agribusiness multi-nationals. In Latin America they are mostly regional companies that often have over 100,000 ha of good crop land; the biggest company has up to a million hectares. In South-East Asia, the big companies are palm oil producers and they earn billions of dollars as their annual revenue: eight of the world’s largest 25 agricultural production companies grow palm oil. In Africa, there is much FDI from a very heterogeneous group of companies. In Russia and the Ukraine, 40 and 30 ‘superfarms’, again homegrown companies, respectively manage 4.5 Mha and 6.7 Mha in total.

### Opportunities and risk

Since the economic reforms of the 1980s and 1990s, foreign investment has generally been regarded favourably by most governments. It has provided needed capital, and led to transfer of technology, creation of new industries, and so on. There are also significant risks, particularly when investing directly in farming, and those risks are particularly high in areas that lack functioning land markets.

Here are some examples of opportunities and risk. First, oil palm. It is an African crop that has moved to South-East Asia where the industry is now booming. The value of palm oil exports from South-East Asia exceeds the value.

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**Table 2. Overview of types of investors in farmland in different land market contexts (the more the x the greater the importance).**

<table>
<thead>
<tr>
<th>Type of investor</th>
<th>Type of land market</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Private land markets</td>
<td>Government-mediated land concessions</td>
</tr>
<tr>
<td>State</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Governments</td>
<td>-</td>
<td>x</td>
</tr>
<tr>
<td>Sovereign wealth funds</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>State-owned companies</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agribusiness</td>
<td>xxx</td>
<td>xxx</td>
</tr>
<tr>
<td>Energy</td>
<td>xx</td>
<td>xx</td>
</tr>
<tr>
<td>Portfolio (managed)</td>
<td>xxx</td>
<td>x</td>
</tr>
<tr>
<td>Other (timber, speculative)</td>
<td>x</td>
<td>xxx</td>
</tr>
</tbody>
</table>
of all agricultural exports from sub-Saharan Africa. Although palm oil was a lost opportunity for sub-Saharan Africa, the South-East Asian companies are now investing, very aggressively, in Africa. There are literally billions of dollars at stake here in terms of investments, and up to 3 Mha of land. Oil palm is a crop that creates numerous jobs (200–300 jobs per 1000 ha) and holds much potential for the involvement of smallholders. Those are desirable characteristics for spreading the benefits. However, companies need to learn the negative lessons from the South-East Asian palm oil expansion in terms of extensive tropical deforestation and land conflicts.

There are also questions about fair deals. Some of these companies are getting land for US $1–5/ha, yet oil palm yields net returns of at least US $2000/ha. That is an example of the unequal negotiating positions in terms of these land concessions.

The Ukraine is an example of a different opportunity. Agriculture there was de-capitalised after the fall of the Soviet Union in 1991, leaving the Ukraine with big needs for investment and for transfer of technology, which have been met to some extent, and have increased jobs and wages (Petrick et al. 2012). The Ukraine has become a significant exporter of grain and oil seed in world markets (Liefert et al. 2009). However, it lacks a private land market, and land rentals are being provided by small landowners at very low rental values. These are people who received their land after the breakup of the collective farms (mostly pensioners and other poor people) and who have low negotiating powers. Land holdings by large companies with over 10,000 ha have grown from less than 2 Mha in around 20 holdings in 2007 to around 5 Mha in approximately 80 holdings in 2011 (Byerlee et al. 2012). There have also been problems because these investments tend to be risky. Morgan Stanley, a large Wall St bank, is one example of a portfolio investor that has withdrawn, having lost money in Ukrainian farming.

Large investments in a weak institutional and regulatory environment often result in high environmental and social costs. In Indonesia, plantations for oil palm and forestry have taken over hundreds of square kilometres of tropical forests, for example.

Social risk is the largest issue in areas without functioning land markets. Land rights are lost, and the food security of local farmers and communities may be undermined. Mozambique is an interesting example here, because this country since 1998 has had land laws that do recognise communities’ land rights. Communities can demarcate their rights and register them. Mozambique is also a country where plenty of land is available, with only 4 Mha cropped in 34 Mha of arable land, and there has been a very aggressive program for attracting private investors. However, while one ministry was demarcating community rights another ministry was handing out land to private investors. The result was 1.4 Mha of overlapping rights. The issue here has been implementation of the laws, and the government of Mozambique has recognised that and set a moratorium on land concessions until measures are in place to avoid these types of conflicts in land allocation.
Many agricultural investments also fail on economic grounds. One example is in Sudan where a very large area of up to 11 Mha has been used for sorghum and sesame cultivation since the 1970s (Government of Sudan 2009). The plan was for Sudan to become a breadbasket for the Gulf states after the 1970s oil price spike and food price spike. The venture has not been a success, even on economic grounds, with sorghum yields averaging only 0.5 t/ha, whereas 4 t/ha could be expected in the same sort of environment in Queensland. Issues encountered in the Sudan have included soil degradation, lack of technology and loss of land rights by the pastoral people who had been using that land (Johnson 2003; Pantuliano 2007).

**Risks and opportunities in Australia**

In Australia, foreign investment in farmland is not new. Ever since the settlement of Australia the pastoral areas have had foreign investment, especially in the northern areas in cattle properties, but also in crop production. For example, there was the Peak Downs scheme (Rogers 2008) in the 1940s after the Second World War, which was a parallel to the groundnut scheme in Tanzania (Wood 1952) (both failed), and efforts by large investors to produce sorghum in the Northern Territory in the 1960s and 1970s also failed.

There have also been successes, including the often-highlighted example of American investors establishing the cotton industry in New South Wales.

Australia has strong established institutions and regulations, and the risks look quite low. Much of the fear about private investors coming into Australia comes from a lack of transparency: people want to know who is investing where. If authorities made it a priority to improve access to information about investments and investors, that could remove anxiety.

In the US in the 1970s there were similar fears about the influx of foreign investors, after a food price spike at that time. An annual registry was established, on which all foreign investors had to register; it is published every year. Foreign investment in farmland is not an issue there now.
Is Australia going to put a brand name on the land (Figure 4), or are we going to put our brand name on our ideals? As an Australian who has been overseas for many years, I have been able to stand up in meetings and say: ‘I come from a country that practises what it preaches in free trade. We do not subsidise our farmers. We do not protect agriculture.’

Australia really has a reputation in providing that sort of global leadership in terms of free trade. Free investment goes along with free trade. Let us not undermine that image. The first step should be to set up a registry for foreign investors, as the federal government has now proposed, to provide reliable information to all — farmers, investors, government and the media — to inform the debate.

Policy priorities for investment

In the context of policy priorities it is useful to think of three types of countries (Table 3). In the first group of countries, which includes Australia, the land and other markets work fairly well, and the priority is to improve transparency about the investors.

The second group of countries includes emerging countries such as the Ukraine and Brazil. There the priorities include improving land markets, and defending property rights, and equalising opportunities particularly for family farmers. In the past, these countries’ policies have often favoured large companies.

For the third group of countries, which are mostly in sub-Saharan Africa and South-East Asia, a policy priority should be to formalise existing property rights of local communities and farmers, in a fully transparent manner. Before handing out land, ideally their governments should strengthen community capacity to negotiate good deals, and put mechanisms in place to monitor land ownership and rights. Policy priorities should favour the smallholders as the drivers of agricultural growth and poverty reduction.

<table>
<thead>
<tr>
<th>State of markets</th>
<th>Example</th>
<th>Social risks</th>
<th>Environmental risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Land and other markets and regulatory environment function well</td>
<td>Australia, Argentina, Southern Brazil</td>
<td>Few</td>
<td>Few</td>
</tr>
<tr>
<td>B Land and other markets and regulatory environment emerging</td>
<td>Ukraine, Central Brazil</td>
<td>Some</td>
<td>High on the forest margin</td>
</tr>
<tr>
<td>C Lack of formal land markets and land rights, and poorly developed regulatory environment</td>
<td>Africa, South-East Asia</td>
<td>Substantial</td>
<td>High on the forest margin</td>
</tr>
</tbody>
</table>

Table 3. Summary of risks of land acquisitions in countries and regions at different stages of market, institutional and regulatory development.
Many of the current land concessions at $1–5/ha in this third group of countries seem to be essentially subsidies. It is important to even-up conditions and opportunities for all sizes of enterprise.

A series of guidelines are being prepared for investors. The World Bank, the FAO, the International Fund for Agricultural Development (IFAD) and others have set principles for responsible agricultural investment. In recent years, several private-sector roundtables have become influential in certification. These are voluntary groups such as the Roundtable on Responsible Soy, the Roundtable on Sustainable Palm Oil, the Better Sugarcane Initiative, and so on. They have set environmental standards, social standards and standards relating to local land rights, and it seems they are starting to make a difference.

Is there a global land rush?

To answer the title question, yes, there has definitely been a sharp increase in investments in land globally over the last five years or so, although it has not been as substantial as has been reported in the media.

Major driving factors have included land scarcity and the availability of low-cost land in some countries — and also high commodity prices. A fall in commodity prices is likely to quickly dampen these types of investments.

Another factor has been the low returns to investors in non-agricultural enterprises such as equity funds, which has stimulated many of the portfolio investors to turn to farmland.

It is crucial to ensure there is transparency globally, and monitoring of land-ownership and investment. In Africa and South-East Asia, Australian aid could play a large role, to help define and strengthen property rights of local land users. Australia could also work with investors to make their investments more inclusive, such as by underwriting some of those costs of including outgrower schemes as part of these investments.

In Australia itself, there needs to be an investor register and monitoring of ownership. That way, this country can continue to provide leadership to the world in terms of free trade and investment.

NOTE: This paper is based on Byerlee & Deininger 2013 (in press).

References
Dr Derek Byerlee, from Orroroo, South Australia, is currently working with a number of international organisations on foreign investment, corporate agriculture and land use. He was recently co-author of the World Bank report ‘Rising Global Interest in Farmland’. Formerly he was Rural Strategy Adviser of the World Bank and Co-Director of the 2008 World Development Report ‘Agriculture for Development’. Before joining the World Bank he was Director of Economics at the International Maize and Wheat Improvement Center, Mexico, and Associate Professor, Michigan State University, USA. He has published widely in several fields of agricultural development and is a Fellow of the American Association of Agricultural Economics.

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