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INVESTING IN LAND VERSUS LAND USE ANALYZING INVESTMENT DECISIONS BY TRANSNATIONAL FORESTRY AND AGRICULTURE COMPANIES

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Abstract

Our work in Southern and Eastern Africa aims at understanding investor decisions in shaping the emergence of new commodity frontiers and the different trajectories of land use change that may result from these decisions. Based on our findings, we derived two key approaches to choosing land for agricultural investments. One approach ('crop-to-land') was to choose a land that suited a specific crop or an agricultural "project" that had been identified already. The other approach ('land-to-crop') was to choose a land that was suitable for agriculture in general, and then identify a crop or a set of crops that would suit the land. The two approaches show noticeable differences in the types of investors involved, decision rationales, types of crops grown and land area acquired and developed. These differences are also reflected in the broader land use patterns and its implications for the land and its people, and warrants further investigation.

Key Words:

Investment decisions, Land use, Large-scale land acquisitions, Southern and Eastern Africa, Financialization of agriculture

Investing in land versus land use: Analyzing investment decisions by transnational forestry and agriculture companies

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Introduction

The land-based investments wave widely known as the 'large-scale land acquisitions or the 'land rush' or the 'land grab', which peaked soon after the 2007-08 food and financial crisis, have received extensive attention - activist, journalistic, and academic. Embedded in the political economy frameworks, these works cover a range of topics including the trends, drivers, geographies, compositions, actors, agency, power relations, and the broader social and economic impacts. In contrast, fewer works have explored how investors decide to start operating in specific places, their decision-making processes, and how these relate to the broader strategies of the company and their interactions with the local and global context. With the intention of addressing this gap, we investigated the investment decisions of transnational agricultural and forestry companies who have invested in multiple locations in Southern and Eastern Africa. Our work revealed two key approaches to choosing land for agricultural investments. One approach, which from here onwards we refer to as 'crop-to-land' was to choose a land that suited a specific crop or an agricultural "project" that had been identified already. The other approach, 'land-to-crop', was to choose a land that was suitable for agriculture in general, and then identify a crop or a set of crops that would suit the land. The two approaches to choosing land are therefore distinct, as one is based on a specific land use that had already been identified and the other is not. The results indicate differences in the broader land use patterns emerging from different investment choices, in this case the 'crop-to-

land’ and the ‘land-to-crop’ approaches , and hence its potential implications for the land and its people in the long term. This paper intends to explore these two approaches to agricultural investments, and most importantly to use these two approaches as an entry point initiate a dialogue between the much talked about land-based investments in Sub-Saharan Africa and the land use decisions made on the ground.

There is a long list of factors underpinning the land-based investments wave that started in the early 2000’s and boomed later in the decade (Figure 1). However, the roots of this investment wave, which traces back to institutional investments in farmland, was not totally a new phenomenon. It began in the late 1800s when US insurance companies started lending on farmland mortgages. By the 1970s relying on rising farmland prices, mortgage lending had already morphed into equity joint ventures (Koeninger, 2017). Over the next three decades, from a ‘niche’ investment dominated by a few large pension funds and insurance companies, farmland investment became a mainstream asset class (in the global north), accessible not only to institutional investors but also to those retail-oriented investors (Clapp, Isakson, & Visser, 2017; Koeninger, 2017). At the turn of the millennium, with the dot-com downturn, this interest only started gathering momentum (Chen, Wilson, Larsen, & Dahl, 2015). By around 2007, the global food system experienced a major gap in its supply and demand, creating yet another set of reasons to boost the land-based investments wave.

On the demand side, population growth, shifting demographics, changing consumption patterns, clean energy initiatives promoting biofuels with consumption targets backed by economic and fiscal incentives put pressure on agricultural production (Godfray et al., 2010; Naylor et al., 2007). On the supply side stagnating productivity, low investments into agriculture, declining farmland acreage, rising farmland prices, and bottlenecks in storage and distribution was experiencing major bottlenecks diminished production and constrained supply (Mitchell, 2008; Piesse & Thirtle, 2009). The immediate causes of the 2007-08 food and financial crisis - harvest failures caused by drought, low grain stocks, and high oil and oil seed prices – unfolded against this already widening gap in supply and demand and led to a spike in food prices, export bans, and food riots across the developing world imparting a Malthusian crisis. Sustained high farmland property values, attractive historical returns on land investments, advances in agricultural biotechnology, biofuel policies, high commodity prices, legislative and institutional changes lending a favorable investment climate for both local and international agricultural investments played into speculations on rising rates of return to farmland, making the case for agricultural investments ever more strong. Interest in the farmland increased dramatically, bringing numerous new investors and investment managers to the market (Cotula, Vermeulen, Leonard, & Keeley, 2009; Klaus Deininger et al., 2011; Koeninger, 2017; McMichael, 2012; Schoneveld, 2014; Vermeulen & Cotula, 2010). As (Chen et al., 2015) note, every time when the Wall Street had major setbacks such as during the dot-com downturn of 2000 and the 2007-08 food and financial crisis, investor interest in real assets like farmland received a major boost. The emergence of a new set of actors investing in agriculture and farming and the means by which they continue to engage with the sector, show distinctive links and overlaps with the two approaches to agricultural investments, ‘crop-to-land’ and ‘land-to-crop’, that we set out to discuss.

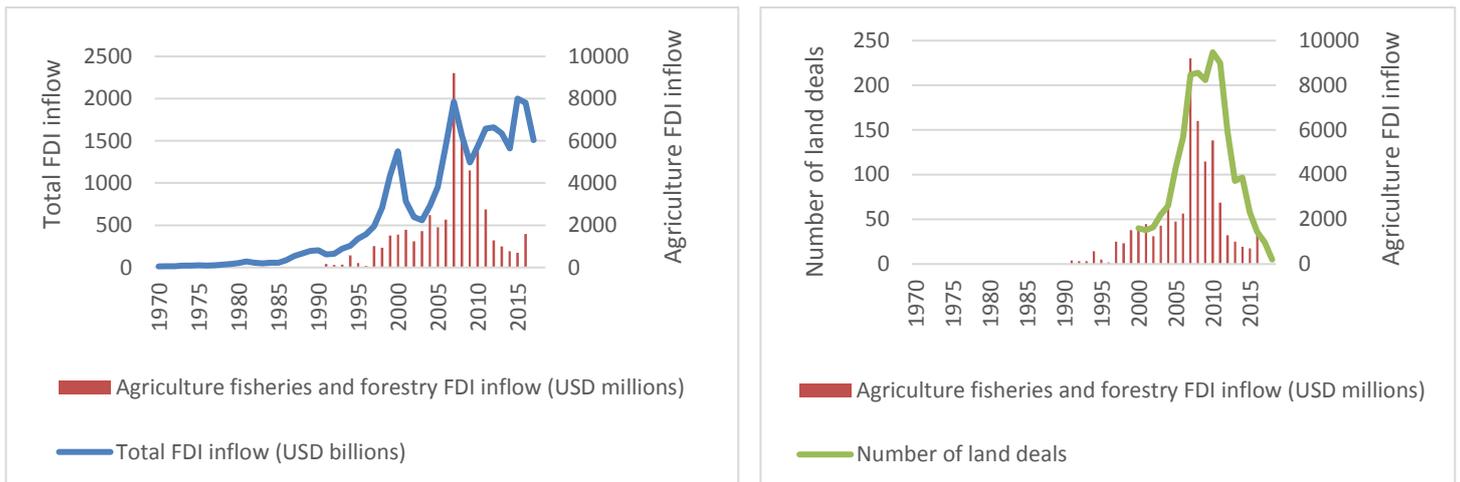


Figure 1. Trends in foreign investments; total FDI inflow, agricultural FDI inflow including forestry and fisheries, and number of land deals over 1970-2018 (Source: FAOSTAT, 2019; LAND MATRIX, 2019; UNCTAD, 2019))

A New Set of Actors

As noted above, by the late 2000's poorly performing financial markets, high commodity prices, increasing farmland values, and attractive historical returns on land investments made the circumstances ripe for a relatively new set of actors, to enter the space of global agricultural investments - the institutional investors (Daniel, 2012; Kish & Fairbairn, 2017; Lawrence, Sippel, & Burch, 2015). Among others they include private equity consortia, hedge funds, investment fund managers, pension and superannuation funds, merchant banks, sovereign wealth funds, and endowments (Cotula et al., 2009; Daniel, 2012; Gunnoe, 2014; Lawrence et al., 2015; McNellis, 2009). Institutional investors are similar to industrial corporations as they are both capitalist enterprises that aim at increasing returns on capital invested but the means by which they do this is different. Industrial corporations' use of land is typically tied directly to manufacturing of food or wood products on the land and their land use and management is designed toward achieving this. For institutional investors the land itself is the asset, which they turn into a profit center. Therefore, the land use and management strategies of institutional investors entail short-term time horizons and are geared toward maximizing returns to their investors, in the form of asset price appreciation (Gunnoe, 2014).

Financialization

Financialization, the so-called buzzword of the 2010s, refers to profit-making through financial activities rather than through the traditional modes of trade and commodity production. This marks a relative shift in capital accumulation strategies, from the primacy of production of surplus value through capitalist relations of labor mobilization and exploitation toward extracting value through non-productive forms of value appropriation and rent relations. As a result, land and/or commodities are treated as financial assets, prioritizing its exchange value over its use value (Andreucci, García-Lamarca, Wedekind, & Swyngedouw, 2017; Asiyani, 2017; Christophers, 2015; Foster, 2007; Harvey, 1982; Krippner, 2005).

As financialization evolves both as a concept and a phenomenon, it lends other connotations too – e.g the increasing importance of the agency of ‘shareholder value’ in corporate governance or the growing dominance of the capital markets over systems of bank-based finance or the proliferation of new financial instruments, such as weather derivatives, catastrophe bonds, commodity futures contracts, and commodity index funds and the increasing growth and complexity of their trading (Krippner, 2005; Meyfroidt, 2018; Ouma, Johnson, & Bigger, 2018). In the agriculture sector, the topic of financialization has been explored in the context of large-scale land acquisitions (Burch & Lawrence, 2009, 2013; Clapp, 2014, 2017; Cotula, 2012; Daniel, 2012; Ducastel & Anseeuw, 2017; Fairbairn, 2014; Ouma et al., 2018) and the role of financialization in the forestry sector is a topic that has largely been limited to the U.S (Gunnoe, 2014; Meyfroidt, 2018). Much of this work revolves around the agency and power relations of these financial transactions – mainly how productive rural lands are brought under the ownership or the control of a financial sector that earns its income off rising land prices and rents contributing to extreme wealth and income polarization (Arrighi, 1994; Gunnoe, 2014; Krippner, 2005). Yet how these events and processes translate into land use decisions have not been addressed.

Data and Methods

Our sample includes over 30 transnational companies investing in agriculture or forestry in Mozambique, Zambia, Tanzania, Ethiopia, and South Africa. We conducted semi-structured interviews covering the entire chain of managers in a company from the farm or the plantation managers, to the country and regional managers, to those responsible for and shaping the decisions at the highest level, including, CEOs, shareholders and investors who are based mostly in Europe. The farm and country managers were better equipped with information on day-to-day management and operations and the concomitant practicalities, constraints, and opportunities but information on the land-use decisions such as ‘what to grow’ and ‘where to grow’, were beyond their scope, which the management at the top level filled in. Additional interviews with various other actors from international organizations, civil society, international and national NGOs, state departments and academia helped us understand the prevailing narratives that embeds the data in the larger context. To date we have carried out over 90 interviews across Southern and Eastern Africa and in Europe.

In our interviews with the investors, we collected data on the company, its profile, financial sources, past, current and planned investments, where the company invests (locations) and reasons explaining why, in what crops and projects the company invests and reasons explaining why, perceptions on opportunities, constraints, challenges, and the potential benefits of each investment location, each invested crop and project, and also the personal stories of the interviewees, including their experience, how they got involved in the company, and the reasons for joining or starting the company. We used the data to systematically characterize the investors and their decision rationales for each investment.

Investing in ‘Land-to-crop’ (Land) vs. ‘Crop-to-land’(Land Use)

Based on our findings, we derived two distinct approaches to choosing land for agricultural investments. In the ‘crop-to-land’ approach, the investors identified and invested in a specific crop(s) or a ‘project’ and

then looked for a land that suited the crop(s) or the project. In the ‘land-to-crop’ approach the investors invested in a land, and then identified a crop(s) or a project that suited the land. There is common list of criteria that investors use in choosing an investment destination. Often what makes one investment different from the other is not the list itself, but the relative importance ascribed to each criterion. Here we focus on the most cited criteria for deciding an investment location – limitations to growing conditions, market demand, market access and logistics. The weight ascribed by the investors to each of these criteria differed across the two investment approaches. Apart from the decision rationales, differences in the two investment strategies were also reflected in land use outcomes and broader land use patterns. The two investment strategies presented noticeable differences in the types of investors involved, location of investments, types of the crops grown, and land area acquired and the land area developed.

1. Decision criteria and their relative importance

a. Limitations to growing conditions and market demand

For those investors adopting a ‘crop-to-land’ approach, since their choice of land is conditioned by the crop or the agricultural project that they have already identified, the agro-ecological conditions were much more precise (Figure 2). For example, a project that was investing in macadamia nuts entailed a different set of agro-ecological conditions to that of coffee or seed-potatoes. Therefore, if the identified project or crop has specific agro-ecological demands, the choice of suitable land for that project is much limited than for a project that would demand only the basic arable conditions.

For some investments the choice of land was further limited by the different seasonal availabilities of the crop in different geographies. As the country director of the company ‘AAP’, which supplies its produce to supermarket chains in the UK, Europe, North America, Latin America and southern Africa explained, their choice of investment location was decided by the seasonal supply of the crops they specialise in and their commitment to meet year-round demand. “It’s the timing of markets. . . . We are a marketing organization. We need to send our [produce] to the market 365 days” (Interviewee AAP-004). To maintain a year-round supply– for crops that show different harvest times in different growing regions -the company spreads its investments across locations that can supply at different times of the year. Hence, any new investment in agricultural land or land use models by company ‘AAP’ always targets a specific seasonal gap.

Similarly, company ‘BAI’, who invests in seed crops (crops grown for its seed), indicated the importance of choosing a location with suitable agro-ecological conditions that is also isolated (far enough) from farms and commercial stocks of the crop grown for consumption, in order to prevent the spread of disease pathogens (Interviewee BAI-005).

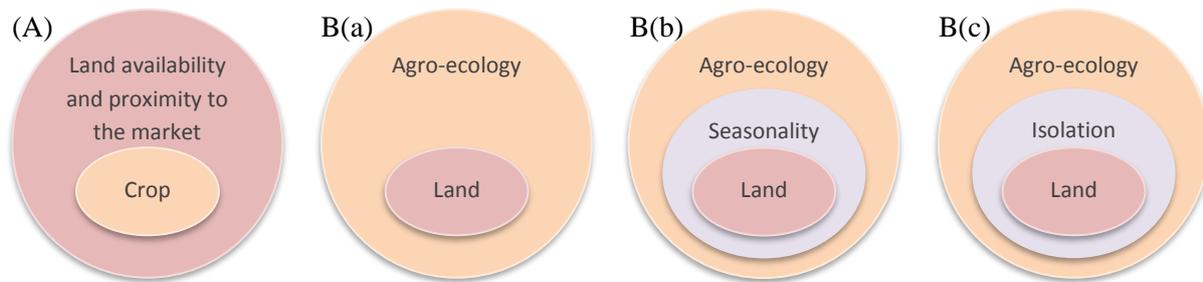


Figure 2. Key approaches and the different limiting factors to choosing land for agricultural investments (A) land-to-crop (B) crop-to-land

Land use choices limited by specific agro-ecological conditions and further screened by the crop harvest calendars of different geographies or isolation distances, considerably restricted the extent of land available for a ‘crop-to-land’ investment. The country manager of ‘AAK’ company, who farms high value crops adopting a ‘land-to-crop’ approach explained this stating that “we are thinking of expanding. We do our evaluations properly, we hired a consultant and looked all over the country, there was no land available except for in this one (Interviewee AAK-010). Therefore, ‘crop-to-land’ approach limited the choice (for available land). On the one hand, (one could argue that) this limit on choice can restrict potential expansion. On the other hand, if a given land that is already occupied qualifies against the demand for a unique set of growing conditions, it can potentially intensify competing land uses.

b. Land availability, logistics, and market access

While the basic arable conditions remained a common requisite across the board, investments adopting a ‘land-to-crop’ approach (since their choice of land was not guided by a chosen crop or a project) did not rely on specific growing conditions. Instead, their choice of location was heavily guided by availability of land and access to logistics and markets. The ‘BAS’ company, who adopted a ‘land-to-crop’ approach, explained that proximity to market was the key factor guiding their choice of investment. The company had acquired a land of over 30,000 ha that could be reached within four hours from a major commercial hub (Interviewee BAS-003).

It does not suggest, those adopting a ‘crop-to-land’ approach finds access to logistics and market unimportant. It only suggests that in a decision hierarchy scoping for a ‘crop-to-land’ approach, growing conditions takes precedence over logistics. As one of the farm managers of ‘CAQ’ company who adopted a ‘crop-to-land’ approach explained “land suitability is key, logistics is one of the small components” (Interviewee CAQ-002). But for those adopting a ‘land-to-crop’ approach, proximity to roads, ports, and agricultural input and service providers took precedence.

Across the two approaches, there was noticeable differences between the types of the crops grown and land area acquired and the land area developed. For example, those adopting a ‘land-to-crop’ approach, tended to grow annual crops such as soya, maize, wheat, barley, vegetables, tobacco, and stevia. They worked with shorter, time horizons, acquired lands in excess of 10,000-20,000 ha with basic arable conditions, and were open to trialing different crops and diversifying. As one of the ‘land-to crop’

company directors explained, “we are doing traditional crops, it’s not the best option when you take into account logistical constraints and political interferences. We are diversifying as much as possible” (Interviewee BAT-003). Contrastingly, those who adopted a ‘crop-to-land’ approach farmed high value perennial crops with long gestation periods of 8 years or more such as, coffee, fruits, and edible nuts. These companies worked with long-term investments, acquired lands with prime arable conditions suited for the crops they are growing, and their land acquisitions remained in the range of 70-3000 ha.

What sets these two approaches to land-based agricultural investments apart are mainly the (1) vision and goals of the investors (the direction taken as a company and the objectives of the investment) and (2) skill set and experience- experience in the crop, including its production, processing, marketing, and in-situ experience)

1. Investors and their visions and goals

As Ducastel and Anseeuw (2017) point out, investors’ profile – the capital, its source, liability structures and governance – largely defines their investment policy, and hence the choice and expectations regarding agriculture and farmland. ‘Crop-to-land’ approach to investing was not unique to a single group of investors. Although it was the approach adopted mainly by agribusinesses managing large-scale agri-estates or plantations and development financiers investing in small to medium-scale agriculture ‘projects’, there were cases of institutional investors investing in partner companies who had adopted a ‘crop-to-land’ approach. Contrastingly, the ‘land-to-crop’ was an approach adopted exclusively by institutional investors. This is where the intentions of these different investors become apparent.

Agribusinesses managing large-scale agri-estates intend to build and strengthen their core competencies with a long-term vision to achieve global competitiveness. These companies often specialize in export markets and for them integrating the supply chain (Cotula et al., 2009; Vermeulen & Cotula, 2010) and meeting the year-round demand is therefore critical. For agribusinesses and farming companies their main intention lies in increasing production. As a result, these companies build on their existing expertise to secure a consistent supply. For impact investors, their main goal is to create impact to develop the economy and create job opportunities and to achieve this they rely on increasing agricultural production. Both agribusinesses and impact investors intend to create value through production, but institutional investors intend to generate value through rentier relations. As much of the ‘land grab’ and ‘financialization of agriculture’ literature reveals, by investing in land and agriculture as an asset class, institutional investors intend to diversify their portfolios. Agricultural returns are negatively correlated with equities returns, and therefore, during times of low performance in the equities market, investments in agricultural land and commodities help lower the risk, the portfolio is exposed to. Capital appreciation over time and the potential for agricultural production also adds to the worth of investing in land. For institutional investors, investing in land suitable for production of various commodities, therefore offers a strong investment thesis. As Jeff Conrad, a pioneering founder of agricultural investment funds as early as since the late 1980s, (as cited in Koeninger, 2017) explains: “Investors wanted real assets that weren’t traded on the stock market and provided real value that couldn’t evaporate. This caused investors to find farmland

to be more attractive. Real property won't disappear regardless what happens on Wall Street.” In contrast to agribusinesses, for whom an investment is often long lasting, and development financiers, whose time horizons, although short, yet ‘patient’ enough to getting ‘locked-in’ over a 10-15 years, institutional investors relying on private equity typically commit to five to seven-year investment cycles, after which they exit the fund through a public offering in the stock exchange or sale for a profit or carried interest (Daniel, 2012; Ouma, 2015).

For those investors that adopted a ‘crop-to-land’ approach to investing, the demand for the crop not only decided the location of the investment, but also its scale. This is tightly linked up with the investor’s objective to reach production levels to meet the demand. For example, explaining what guides their investment choices and locations, the managing director of the ‘EAP’ company, who farms and distributes ‘high value crops’ said; ‘it is an easy choice, . . . our choice of land is one, production driven and two, market driven. In agriculture, you need to start at the end. Many in the agricultural world get this wrong. The proper way to do things is to start with the market’ (Interviewee EAP-012). ‘AAQ’ another company who specialises in a ‘high value crop’ detailed that each new additional investment is based on a balance between meeting the demand and achieving economies of scale. Therefore, the potential to expand is an important criterion, whether as a single farm or as separate farms within a certain radius, but only to the extent that is capped by demand and diseconomies of scale. The land acquisitions of those companies that are production and market demand driven, remained within the range of 70 to 3500ha in a single location. The extent of the land acquisition was determined by the area needed to achieve scale. Hence, their capital investment per acreage was two to three times higher than those that adopted a ‘land-to-crop’ approach and invested in large tracts in the range of over 10,000 or more hectares.

For those adopting a ‘land-to-crop’ approach, the extent of land acquisitions was determined mainly by the extent of land availability and their objectives were shaped by larger discourses and global trends – The CEO of ‘AAG’ investment fund explained where they invest and why, citing how technology, a development narrative, and development funding opens up new opportunities in natural resources, in what he calls the ‘last frontier’ - “We approach our investments from a geographic standpoint, and it marks the convergence of three things. First, it is the technology, it is unlocking natural assets that weren’t accessible before, second, investing in natural capital that also contributes toward rural development, that presents a strong investment thesis, especially in Africa, because it is the last frontier for forestry and agriculture and third, investments that were historically limited to the investment community is now collaborating with the development community. They are mixing the capital - what it does is it de-risks the investment proposition” (Interviewee AAG-060).

2. Skill set, in-situ experience, and market control

While funding and the objectives of institutional investors has remained a focal point of investor profiling in much of the land grab and financialization literature, their skill set, which is integral to who they are and what their objectives are has largely been overlooked.

In the ‘crop-to-land’ approach, the investor primarily invested in a specific crop, for which they already had specialized expertise. These were mainly agribusinesses. For example, company ‘AAQ’ has a value-chain that spans over 60 countries including farming, processing, and distribution operations and has been in the business for around 30 years. Company ‘EAP’ who produce and distributes high value crops to the UK, Europe, North America, Latin America and southern Africa has a history of more than 50 years in the business. Impact investors and some institutional investors who adopts a ‘crop-to-land’ approach to investing, partnered with businesses or farmers with an established agribusiness or farming history. Those who lacked in country experience cited the importance of hiring the right people, those that understand Africa and the African way of doing business. An institutional investor who had invested in an existing farmland project – justified their choice of investment stating ‘we work with strong local partners with strong expertise and track record. They have been in the business for several generations, owns multiple businesses and are deep pocketed’ (Interviewee CAT-020). The impact investments in our sample adopted a similar logic. They invest in ‘farmers’ or ‘projects’ that demonstrated the potential for a viable business which they qualify by a ‘proven capabilities to operate on the ground’ such as a ‘a proven business model’ and ‘a strong management team’ (company ‘FAI’).

However, those adopting a ‘land-to-crop’ approach did not have a specific agricultural skill set or they did not collaborate with the right kind of partners who had experience in African agriculture. They invested primarily in a land asset or a commodity asset or both, and their choice was governed by land availability and/or market speculation. For example, Jim McCandless, a founding member and head of agricultural investment funds in the US as cited in Koeninger (2017), cautions about the risks of institutional investors who are unfamiliar with agriculture getting involved in agricultural funds and how the resulting failures may destroy the ‘reputation’ of the entire farmland asset class. One of the investment officers from the company ‘FAI’ expressed similar concerns elaborating on the lack of skill and experience of many institutional investors investing in agriculture; ‘after the [2007-08] financial crisis, lots of bankers lost their jobs, nobody wanted to invest in the stock market. They were looking for something else, and few people looked at Africa, there was an opportunity, slightly strange, one based upon land availability, . . . lots of people who didn’t know about agriculture set up agriculture funds’ (Interviewee FAI-007).

Conclusion

Here in this paper we presented two approaches to investing in agricultural land, characterized these two approaches in terms of what constitutes them and why and aligned them with the larger narratives on large-scale land acquisitions and the financialization of agriculture. Painted with a broad brush – land-based agricultural investments – often force the discussions around it into large-scale vs. small-scale or powerful vs. the powerless or capitalist vs. socialist debates. As others have highlighted, (Klaus Deininger & Xia, 2016; Vermeulen & Cotula, 2010) moving beyond such polarized debates, which deny meaningful solutions and prevent addressing the real problems to understand and explore alternative ways of structuring agricultural investments, is critical. Our aim was to contribute in this regard, by initiating a dialogue between the prevailing narratives on large-scale land acquisitions and land use decisions made on the

ground. It reveals how two distinct approaches to investing in agricultural land derive from distinct rationales and logics, rely on distinct sets of skills, experiences and visions, and produce distinct effects in the landscape and its socio-economic context.

References

- Andreucci, D., García-Lamarca, M., Wedekind, J., & Swyngedouw, E. (2017). "Value Grabbing": A Political Ecology of Rent. *Capitalism Nature Socialism*, 28(3), 28-47. doi:10.1080/10455752.2016.1278027
- Arrighi, G. (1994). *The Long Twentieth Century: Money, Power, and the Origins of Our Times*. London: Verso.
- Asiyanbi, A. P. (2017). Financialisation in the green economy: Material connections, markets-in-the-making and Foucauldian organising actions. *Environment and Planning A: Economy and Space*, 50(3), 531-548. doi:10.1177/0308518X17708787
- Burch, D., & Lawrence, G. (2009). Towards a third food regime: behind the transformation. *Agriculture and Human Values*, 26(4), 267. doi:10.1007/s10460-009-9219-4
- Burch, D., & Lawrence, G. (2013). Financialization in agri-food supply chains: private equity and the transformation of the retail sector. *Agriculture and Human Values*, 30(2), 247-258. doi:10.1007/s10460-012-9413-7
- Chen, S., Wilson, W. W., Larsen, R., & Dahl, B. (2015). Investing in Agriculture as an Asset Class. *Agribusiness*, 31(3), 353-371. doi:doi:10.1002/agr.21411
- Christophers, B. (2015). The limits to financialization. *Dialogues in Human Geography*, 5(2), 183-200. doi:10.1177/2043820615588153
- Clapp, J. (2014). Financialization, distance and global food politics. *The Journal of Peasant Studies*, 41(5), 797-814. doi:10.1080/03066150.2013.875536
- Clapp, J. (2017). Responsibility to the rescue? Governing private financial investment in global agriculture. *Agriculture and Human Values*, 34(1), 223-235. doi:<http://dx.doi.org/10.1007/s10460-015-9678-8>
- Clapp, J., Isakson, S. R., & Visser, O. (2017). The complex dynamics of agriculture as a financial asset: introduction to symposium. *Agriculture and Human Values*, 34(1), 179-183. doi:<http://dx.doi.org/10.1007/s10460-016-9682-7>
- Cotula, L. (2012). The international political economy of the global land rush: A critical appraisal of trends, scale, geography and drivers. *The Journal of Peasant Studies*, 39(3-4), 649-680. doi:10.1080/03066150.2012.674940
- Cotula, L., Vermeulen, S., Leonard, R., & Keeley, J. (2009). *Land grab or development opportunity? Agricultural investment and international land deals in Africa*. Retrieved from <http://pubs.iied.org/12561IIED/>
- Daniel, S. (2012). Situating private equity capital in the land grab debate. *The Journal of Peasant Studies*, 39(3-4), 703-729. doi:10.1080/03066150.2012.674941
- Deininger, K., Byerlee, D., Lindsay, J., Norton, A., Selod, H., & Stickler, M. (2011). *Rising global interest in farmland : can it yield sustainable and equitable benefits?* . Washington, DC: The World Bank.
- Deininger, K., & Xia, F. (2016). Quantifying Spillover Effects from Large Land-based Investment: The Case of Mozambique. *World Development*, 87, 227-241. doi:<https://doi.org/10.1016/j.worlddev.2016.06.016>
- Ducastel, A., & Anseeuw, W. (2017). Agriculture as an asset class: reshaping the South African farming sector. *Agriculture and Human Values*, 34(1), 199-209. doi:10.1007/s10460-016-9683-6
- Fairbairn, M. (2014). 'Like gold with yield': evolving intersections between farmland and finance. *The Journal of Peasant Studies*, 41(5), 777-795. doi:10.1080/03066150.2013.873977
- FAOSTAT. (2019). Retrieved from <http://www.fao.org/faostat/>. Retrieved January 16, 2019, from Food and Agriculture Organization of the United Nations (FAO) <http://www.fao.org/faostat/>
- Foster, J. B. (2007). The financialisation of capitalism. *Monthly Review: An Independent Socialist Magazine*, 58.
- Godfray, H. C. J., Beddington, J. R., Crute, I. R., Haddad, L., Lawrence, D., Muir, J. F., . . . Toulmin, C. (2010). Food Security: The Challenge of Feeding 9 Billion People. *Science*, 327(5967), 812-818. doi:10.1126/science.1185383

- Gunnoe, A. (2014). The Political Economy of Institutional Landownership: Neorentier Society and the Financialization of Land. *Rural Sociology*, 79(4), 478-504. doi:doi:10.1111/ruso.12045
- Harvey, D. (1982). *The Limits to Capital*. Oxford, England: Basil Blackwell Publisher Ltd.
- Kish, Z., & Fairbairn, M. (2017). Investing for profit, investing for impact: Moral performances in agricultural investment projects. *Environment and Planning A: Economy and Space*, 50(3), 569-588. doi:10.1177/0308518X17738253
- Koeninger, J. (2017). *History of institutional farmland investment*. Retrieved from http://www.globalaginvesting.com/wp-content/uploads/2017/04/Farmland_Investment_History_Koeninger_HQP.pdf
- Krippner, G. R. (2005). The financialization of the American economy. *Socio-Economic Review*, 3(2), 173-208. doi:10.1093/SER/mwi008
- LAND MATRIX. (2019). Retrieved from <https://landmatrix.org/>. from The Land Matrix <https://landmatrix.org/>
- Lawrence, G., Sippel, S., & Burch, D. (2015). The financialisation of food and farming. In G. M. Robinson & D. A. Carson (Eds.), *Handbook on the Globalisation of Agriculture* (pp. 309–327). Cheltenham, UK Edward Elgar Publishing.
- McMichael, P. (2012). The land grab and corporate food regime restructuring. *The Journal of Peasant Studies*, 39(3-4), 681-701. doi:10.1080/03066150.2012.661369
- McNellis, P. E. (2009). *Foreign investment in developing country agriculture: The emerging role of private sector finance*. FAO Commodity and Trade Policy Research, (No. 28, Working Paper). FAO, Rome, Italy.
- Meyfroidt, P. (2018). Financialization and the Forestry Sector. In C. Farcy, E. Rojas-Briales, & I. Martinez de Arano (Eds.), *Forestry in the Midst of Global Changes* (pp. 307-316). Boca Raton: CRC Press.
- Mitchell, D. (2008). *A note on rising food prices*. Policy Research working paper, (WPS 4682). Washington, DC.
- Naylor, R. L., Liska, A. J., Burke, M. B., Falcon, W. P., Gaskell, J. C., Rozelle, S. D., & Cassman, K. G. (2007). The Ripple Effect: Biofuels, Food Security, and the Environment. *Environment: Science and Policy for Sustainable Development*, 49(9), 30-43. doi:10.3200/ENVT.49.9.30-43
- Ouma, S. (2015). Getting in between M and M' or: How farmland further debunks financialization. *Dialogues in Human Geography*, 5(2), 225-228. doi:10.1177/2043820615588160
- Ouma, S., Johnson, L., & Bigger, P. (2018). Rethinking the financialization of 'nature'. *Environment and Planning A: Economy and Space*, 50(3), 500-511. doi:10.1177/0308518X18755748
- Piesse, J., & Thirtle, C. (2009). Three bubbles and a panic: An explanatory review of recent food commodity price events. *Food Policy*, 34(2), 119-129. doi:<https://doi.org/10.1016/j.foodpol.2009.01.001>
- Schoneveld, G. C. (2014). The geographic and sectoral patterns of large-scale farmland investments in sub-Saharan Africa. *Food Policy*, 48, 34-50. doi:<https://doi.org/10.1016/j.foodpol.2014.03.007>
- UNCTAD. (2019). Retrieved from <https://unctadstat.unctad.org/>. Retrieved 18 January, 2019, from United Nations Conference on Trade and Deveelopment (UNCTAD) <https://unctadstat.unctad.org/>
- Vermeulen, S., & Cotula, L. (2010). *Making the most of agricultural investment: A survey of business models that provide opportunities for smallholders*. Retrieved from London/Rome/Bern: <http://pubs.iied.org/12566IIED/>