

## The value of so-called ‘failed’ large-scale land acquisitions

Saturnino M. Borrás Jr.<sup>a,b,c,\*</sup>, Jennifer C. Franco<sup>b,c</sup>, Tsegaye Moreda<sup>a</sup>, Yunan Xu<sup>a</sup>,  
Natacha Bruna<sup>d</sup>, Binyam Afewerk Demena<sup>a</sup>

<sup>a</sup> International Institute of Social Studies (ISS) of Erasmus University Rotterdam, Netherlands

<sup>b</sup> College of Humanities and Development Studies (COHD) of China Agricultural University, China

<sup>c</sup> Transnational Institute (TNI), Netherlands

<sup>d</sup> Observatório do Meio Rural, Maputo, Mozambique

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### ABSTRACT

The land rush has remained, and is likely to remain, a significant global phenomenon despite waning international media attention. The scope of the phenomenon is likely to be wider than previously thought. Quantifying the extent of land deals in order to study the social phenomenon spotlights the relevance of two distinct but dialectically linked ‘scopes’, namely, the scope of land deals in terms of the precise geographic physical land area of Operational land deals, and the scope of land deals in terms of the larger extent of lands implicated in land deal-making, of which only a part ends up as operational land deals. The latter category is necessarily bigger than the former, and its logic results in the production of Non-operational land deals. Studies have been overwhelmingly about Operational land deals, inadvertently downplaying the relevance of Non-operational land deals. The challenge is to study both Operational and Non-operational land deals because they are co-constitutive.

### 1. Introduction: the continuing relevance of understanding the global land rush

The land rush is an important ongoing social phenomenon<sup>1</sup> despite waning media interest. It is likely to continue to be a critically important global issue. To date, the scope and implications of the land rush are likely to be far bigger and wider than previously estimated and understood, for two reasons: (a) the phenomenon of so-called ‘failed land deals’ has been a priori excluded from most land deal accounting and studies, and (b) the established method of accounting for land grabs is based on a narrower definition of the concept and social phenomenon resulting in the exclusion of some manifestations of the land rush.

The methods we used in our study are a combination of ethnography, critical re-reading of database, and systematic review of the literature. The authors have sustained individual and collaborative research on land deals since 2008 in Africa, Latin America, Southeast Asia, Europe and China, including their studies since 2010 in the two case studies of Mozambique and Myanmar presented below. We re-visited the Land Matrix (LM) dataset, and complemented big data re-examination with a

systematic review of the literature. A systematic literature review of Web of Science articles provides us with a robust, although still incomplete, landscape of the scientific literature during the past two decades. Such a review helps us grapple with the state of the art on the specific problematique that we are trying to address. It will help contextualize our two local case studies and our exploration of the LM database. For practicality and do-ability, we limit our review to Web of Science articles, knowing that in doing so we are missing on some important knowledge in so-called ‘grey literature’. Although we have tried to engage those relevant reports (and books) in other parts of the analysis, it is still a weakness. Details of the extracted data and methods of the systematic review, are available in the Appendix. Between 2000 and 2020, 1370 scientific (Web of Science) journal articles were published that are directly concerned with large-scale land deals, of which only 29 articles are related to *some* aspects of ‘Non-operational land deals’, a category that is being proposed in this article. Detailed explanation of the definition of ‘Operational’ and ‘Non-Operational’ land deals is found in [Sections 2 and 3](#).

The remainder of this article proceeds as follows: the remaining part

\* Corresponding author at: International Institute of Social Studies (ISS) of Erasmus University Rotterdam, Netherlands.

E-mail address: [borras@iss.nl](mailto:borras@iss.nl) (S.M. Borrás).

<sup>1</sup> We use the term ‘social phenomenon’ as a short-hand to the multi-dimensional process that has varied and multiple implications including political, economic, cultural, geopolitical and ecological.

of the current section is dedicated to the discussion of the concepts of land grabs and ‘failed land deals’, and includes two empirical case studies. The next section will discuss definitional question and its implications for how we understand failed land deals, followed by a revisit of the relevance of the Land Matrix database. The subsequent section will analyze the possible meanings of failed land deals using in part a systematic review of the literature. We offer a short conclusion to wrap up the article, and will provide an appendix for the datasets we used and the protocol of the systematic review we carried out.

## 2. The land rush: key concepts, illustrative cases

Different understandings of what ‘land deals’ mean result in different datasets. It is not about which dataset is better; rather, it is about being conscious of the different approaches resulting in different sets of observations of social realities, and being clear about it. Land deals are political processes about actual or potential change in social relations around access to land and natural resources, and thus are inherently relational and historical. Its relational dimension does not only refer to the structure of interaction between classes and social groups in a political process, but also to the relationship between ‘Operational’ and ‘Non-operational’ land deals. Land deals alter class relations (in interaction with other axes of difference: race, ethnicity, gender, generation, religion and nationality). Following EP Thompson’s notion of class as inherently relational, historical and cultural (Thompson, 1991: 8–10 [1963]), by implication land deals which we assume to be embedded in class dynamics (Edelman et al., 2013) are also inherently relational. As such, these are social processes of changing class relations that are constantly moving along a temporal continuum. Like Thompson’s idea that class can only be observed through changing relations between social groups over a period of time, and is not useful to be frozen in a category of ‘things’ in a given moment, we see land deals just like that: dynamic historical social relations. Many of the so-called ‘failed’ land deals, seen from longer historical perspective may represent a contested dynamic conjuncture, a Gramscian ‘interregnum’ in class relations around land control – that is, when the old is dying, but the new is not yet born – and not as fixed, static category of ‘things’ such as ‘dead deals’.

In this context, and following a ‘political control-oriented’ understanding of land relations by Ribot and Peluso (2003) and Peluso and Lund (2011), we use the definition of land grabs offered by Borrás et al. (2012). They argue that land grabs are

*the capturing of control of relatively vast tracts of land and other natural resources through a variety of mechanisms and forms that involve large-scale capital that often shifts resource use orientation into extractive character, whether for international or domestic purposes, as capital’s response to the convergence of food, energy and financial crises, climate change mitigation imperatives, and demands for resources from newer hubs of global capital (Borrás et al., 2012: 851).*

This definition has a direct implication for how we define ‘scope’ of the land rush. The notion of ‘scope’ is used in various studies in a rather vague manner, although it usually means the extent of contracted land deals that are in operation in terms of geographic physical land. In our study, by ‘scope’ we mean the extent of ‘land and investment prospecting’ that includes but goes beyond the physical land area coverage of Operational land deals. Scope pertains to geographic areas, social relations and human–nature connections that are directly or indirectly impacted by contracted land deals, deals that were abandoned, and vague or spectacular attempts at making deals. When a national government declares that it will make a million ha of land available to investors, the impact of such a claim on the land in question is profound, discursively and practically — even if the deal-making process does not progress immediately. It could result, for instance, in the normalization and justification of the state’s assertion of its claim over such land, especially when it becomes a repeated and routinized claim. This

constitutes a significant step in ratcheting up toward future land appropriation by the state that may prove difficult to stop or reverse (Wolford et al., 2013). The 315,000 ha Peapimex concession in Cambodia (Hunsberger et al., 2018), the 100,000 ha Karuturi project in Ethiopia (Lavers, 2016; Schoneveld and Shete, 2014), the 7700 ha Bagamoyo sugarcane project in Tanzania (Engstrom, 2020; Abdallah et al., 2014), and the 30,000 ha Procana project in Mozambique (Bruna, 2019) are a few examples.

When talking about scope of land deals, we have to engage with the most consequential database on land deals: the Land Matrix (henceforth, ‘LM’) (Anseeuw et al., 2013; Nolte et al., 2016; Lay et al., 2021). LM defines ‘large-scale land acquisition’ as those that involved transnational and domestic investors, involving a land size greater than 200 ha, mostly contracted in 2000 or later. LM refines this further by offering two regularly updated, in-house, official tallies. Tally 1 is the complete database of land deals that are transnational and domestic in character, involving land size greater than 200 ha, mostly contracted in 2000 or later. Tally 2 is *Tally 1 minus* deals involving oil/gas extraction, mining, contract farming and forest concessions. Furthermore, and cutting across both tallies and in terms of land deal status, there are four LM categories, namely: (i) ‘Concluded’: means the contract was formalized, with sub-categories of status: (a) not started yet, (b) startup phase, (c) in operation, (d) abandoned, and (e) ‘none’, meaning LM has no information; (ii) ‘Failed’: means the deal was started but abandoned; (iii) ‘Intended’: the deal is neither concluded nor failed; (iv) ‘Other’: covers two sub-categories: (a) contract expired, and (b) change of ownership. Based on the LM dataset, the general estimates of the scope of the global land rush in academic publications range between 30 and 90 million hectares of land (Cotula, 2012; Deininger, Byerlee, 2011; Zoomers et al., 2016) even when the complete LM dataset (Tally 1) itself showed a total of 193.35 million ha that have been implicated in various ways (as of November 2020).

The categories set out by the LM are useful in various ways, depending on what a researcher needs to examine. In this article, a two-tier, simplified *relational categories* of land deals are proposed, namely, ‘Operational land deals’ and ‘Non-operational land deals’. Operational land deals here mean those deals that were concluded and are in various stages of operationalization which include concluded deals where actual operations are yet to start. *Non-operational land deals* are deals that were concluded but later abandoned or contract expired, attempted deals that conclusively ended and failed, and ongoing deal-making that are not (yet) concluded. Deal-making is a dynamic social process that could be successfully concluded or not. The ‘coverage’ of *all* land deals then pertains to both successfully concluded land deals *and* those that were not or are not yet. If the agenda is to understand the nature and dynamics of the land rush, it is relevant to study not only the Operational land deals, but also their flip-side: Non-operational land deals. Unfortunately, the bulk of research is focused on land deals that are Operational, and those concerning Non-operational land deals are quite thin and too patchy to contribute toward any solid understanding of this category – but are sufficient enough to show that it is urgent and necessary to study this matter further.

There are interrelated assumptions informing the analysis in this article. First, in any commodity rush (including the land rush), there are two key actors engaged in the process, namely, on the one hand, owners and brokers of capital looking for land and commodities (engaged in *land prospecting*), and on the other hand, those with claims or control over land, or brokers of land, looking for capital investments (engaged in *investment prospecting*) (see related discussions in Salerno, 2014; Sud, 2014; Levien, 2021; Clapp and Ryan Isakson, 2018; Visser, 2017; Fairbairn, 2020). Second, both types of prospectors are engaged in speculation — that a certain amount of profit can be made from particular investments — and such speculation is based on some plausible logic about the possibility of making profit. Third, the proportion of the commodity (in this case, land) that proves to be viable in terms of commodity production, circulation, exchange and consumption is not,

and cannot be, definitively known in advance. Fourth, speculators are less concerned with what is feasible in terms of commodity production and consumption, and are instead focused more on how much profit can be realized, resulting in hyperbolic projections. Finally, prospecting is usually highly competitive, as land and investment prospectors try to out-smart each other, and that timing is deemed critical. What complicates the situation further is that existing formal and informal, state and non-state rules on access to and use of land are not always pre-structured to facilitate transfer of control over coveted lands (Li, 2014; Peluso and Lund, 2011; Ribot and Peluso, 2003). Hence, both land and investment prospectors challenge such rules, often in subversive ways. For example, a ban on foreign ownership of land in Brazil is circumvented by foreign investors by setting up subsidiaries or joint venture companies (Fairbairn, 2020). The overlapping processes described here result almost always in over-projections and hyperbolic claims that in turn result in deals that are later abandoned and not pursued. The history of commodity rushes — from gold to guano to land — is a history of two intertwined threads, with formally contracted and operationalized deals and non-contracted and non-operationalized deals co-constitutive of each other (Mountford and Tuffnell, 2018; Cushman, 2013; Hightower, 2018). One can only fully explain the causes, conditions and consequences of operational land deals by understanding the deals that are not operational, and vice versa: these two together make up the scope of the land rush.

At the heart of the production of Operational and Non-operational land deals are speculation and spectacle. The range of slogans floated in the media by land and investment prospectors include land and/or host country as ‘green gold’, ‘new Middle East’, ‘green oil field’, ‘the new Saudi Arabia’, ‘gold mine with yield’, ‘fertilizing soil with money’, and so on. Investors prospecting for land are not the only ones engaged in hyperbole; governments who peddle large swathes of land are equally prone to spectacularizing their claims and prospects (Kaag and Zoomers, 2014). Land deals have an element of what Tsing (2000) calls an ‘economy of appearances’, i.e. ‘the self-conscious making of a spectacle [that] is a necessary aid to gathering investment funds [...] It is a regular feature of the search for financial capital’. She elaborates: ‘In speculative enterprises, profit must be imagined before it can be extracted; the possibility of economic performance must be conjured like a spirit to draw an audience of potential investors. The more spectacular the conjuring, the more possible an investment frenzy’ (Tsing, 2000). The intensity of the frenzy spirals upward, creating a supercharged bandwagon effect in both land and investment prospecting. The bewildering array of implicated individuals and corporate entities includes the media; in a mutually reinforcing cycle, media exposure can generate a spectacle, while reporting on a spectacle can boost the media’s profile and popularity. Tsing highlights three key narratives, and the actors behind them, that underpin the ‘economy of appearances’: (a) the globalist dream of omnipresent capital; (b) the nationalist aspiration of the nation-state charting its own development trajectory; and (c) a sub-national regional frontier dream of breaking free from past cycles of marginalization. It is this process that produces the co-constitutive categories of Operational and Non-operational land deals because the frenzy will logically lead to bloated estimates of how much land is actually necessary for what feasible enterprises. Yet concrete impact and implications of the land rush go beyond the fewer lands where enterprises got operationalized, extending to lands implicated in the frenzy but without actual enterprise construction. In the same manner, the range of social actors implicated behind the land rush often extends far beyond those who are directly visible at the field site. Land control and use change, especially in the context of the ‘globalization of land use change’, inherently involves a complex set of, often distant, social actors and processes whose entanglements are both direct and indirect, and outcomes both intended and unintended (Lambin and Meyfroidt, 2011; Calmon, 2020, see Arango, 2021 for a Colombian perspective). The challenge is not to find ways to pare down research variables, but to find ways to connect the key points in such a complex as demonstrated in

broadly relevant land studies (Lambin and Meyfroidt, 2011; Seto et al., 2012).

The scientific importance of studying Operational land deals is obvious. What is not obvious is the reason for studying Non-operational land deals. The unclear value of this category, and the insignificant amount of attention it receives from the scientific community (a meager 2% of the 1370 Web of Science journal publications in 2000–2020) do not make this category less compelling, but they do make scientific research agenda setting and public policy intervention less straightforward. This challenge has to be addressed. While the literature favors the term ‘failed’, in reality Non-operational land deals are not always ‘failed’ land deals. Like the dynamics in past gold rushes, they have a purpose and impact which may play out in at least three ways. First, they play a role in conjuring a spectacle that is necessary to generate finance capital and cheap labor supply. Second, they contribute to attempts to establish optimal parameters for land investment (e.g. extent of capital, amount of land, quantity of labor). Third, they have unsettling impacts on affected societies. The first two aspects are discussed further below. On the third point, as already noted, when a land prospector abandons a land deal, what has failed is the specific contractual arrangement with an investment prospector. The investment prospector (usually the state) often continues to search for a new investor. When the original 100,000 ha Karuturi land deal in Ethiopia was stopped and the contract was canceled, the Ethiopian government returned the land to its land bank which made it the subject of a new search for investors. This meant that the conditions of villagers who were displaced or threatened with displacement did not improve as a result of the canceled contract (Moreda, 2018; Lavers, 2016; Schoneveld and Shete, 2014). These conditions and consequences are not the only kinds of social dynamics triggered by the process of making a land deal; diverse ideal-types and many trajectories are possible. We present two different types of cases that are often casually lumped in the category ‘failed land’ deals.

### 2.1. Case 1: Mozambique (Procana/MAI case)

Massingir district is located in the southern province of Gaza in Mozambique. It is known for its rich biodiversity and the Limpopo National Park. The district is a pastoralist and subsistence farming area. A contiguous area of 30,000 ha of land close to Massingir town was identified by the central government as ‘idle’, ‘marginal’, and ‘available’ for reallocation to corporations for modern sugarcane monoculture plantation for biofuel production. The Procana project was approved in 2009, and the 30,000 ha land was reallocated to the company. A London-based investment, Procana aspired to produce sugarcane products, mainly sugar and ethanol. The company claimed to have US\$500 million investment, and to generate 7000 direct jobs alongside additional jobs for contract-farmers (Borrás et al., 2011; Lunstrum, 2016). Procana reportedly managed to secure guarantee from government that the sugarcane plantation would be given priority to tap water for irrigation in the adjacent Massingir dam (RM (República de Moçambique), 2014). A relatively flat land, the area has been consistently used by villagers as pasture and agricultural land and for other forest resources.

The reallocation of this area to Procana provoked protests from the villagers and their allies. Subsequent political contestations have been plenty and diverse. According to the Mozambican Land Law 1997, the land is owned by the state and potential investors could only get the right to use the land, the so called DUAT (*Direito de Uso e Aproveitamento da Terra*) – after consulting with and getting the approval by the local population that reside and/or use the land. If villagers agree to be expelled from their land, they should be paid fair compensation.

Procana cleared the land, but never managed to plant sugarcane to any significant extent, and did not follow the officially approved DUAT plan. The DUAT was formally canceled by the government in 2011, and the land was transferred to another company, MAI (Massingir Agro-Industrial) with the same plantation development aim, with partners, namely, Transvaal Suiker Beperk (TSB) and Sociedade de Investimentos

Agroindustrial de Limpopo, SA (SIAL). Both the land acquisition process by Procana and MAI were fiercely contested by sections of the local communities, and in both instances, the companies did not follow the officially stated purposes. “Procana came, clear the land and then left without doing anything else. Then MAI came and did almost nothing and then abandoned the area. After they left, the area is empty and not being used”, said a villager (Interviewee 1, Massingir, January 2022).

*“Procana and MAI came here and negotiated with Chinhangane community. During the consultation, there were some agreements and disagreements. We accepted that they acquired specific areas but not others. But then they went and took a vast area that we did not agree with... and now the areas are still empty, nobody uses it.” (Interviewee 1, Massingir, January 2022)*

MAI followed the ‘flex crop’ strategy. They planned to focus on sugar and/or ethanol production according to market demand and price fluctuation. Additionally, the project aimed to be self-sufficient in terms of energy and will produce all its energy for agriculture and the factory throughout the year; and sell the surplus to the national public electricity company. However, in 2017 the government canceled the DUAT acquired by MAI supposedly because the company did not comply with the proposed exploration plan.

In 2021 yet another investor, Massingir Citrus, appeared in the area, and around 500 ha were planted citrus trees. According to the Chinhangane community members, this company did not go through the regular consultation process enforced by the Land Law. The villagers complained that the new investor closed the access that they had to the main towns and roads, from where they get occasional or seasonal informal jobs and access to public services and markets – in addition to the fact their access to the 30,000 ha land has been prohibited since 2009.

*“There is another investor, a white man, that came here and blocked our way to the town. The Post (Government Administrative Post) never told us that the road would be blocked and that there will be another road for us to use. We are poor, we don’t have means of transportation. It is much further now to go to the city through the new road. We wrote a letter to the Government to ask them to return our land.” (Interviewee 3, Massingir, January 2022).*

Since the expropriation of land in 2009, the 30,000 ha land did not revert back to the villagers even when the concessions to the companies were canceled, twice, by the government. In fact, the land became a ‘state (land) reserve’ awaiting potential investors. Thus, in some ways dead land deals become a fertile ground from which new deals may be born at some point afterwards. Despite the dynamic changes of land control in the hands of various investors and the government – amid a generally ‘failed’ land deal status, the one thing that remains more or less constant is the exclusion and expulsion of villagers.

*“What we don’t understand is that when an investor come here, negotiate with us and then they take the land, even if they are not able to implement the project and abandon it, the land does not come back to the community. The land is grabbed by the government and any other new investor that comes, the government just give them the land without consulting us, because they say the land doesn’t belong to us anymore. That is very worrying. It creates lots of problems. We are not going to accept that, because that area, that land exists because we took care of it, our ancestors also took care of it. When the investor fails, they have to give back our land; that is what we want” (Interviewee 3, Massingir, January 2022).*

## 2.2. Case 2: ‘unproductive’ land concessions in Myanmar

The Tanintharyi region in southeastern Myanmar is popularly and informally called Myanmar’s ‘wild west’: the land rush here that started in the late 1990s proceeded with social dynamics similar to those in

other legendary sites of commodity rushes such as the California gold rush and the Oklahoma land run in the second half of the 19th century. Companies engaged in timber extraction, mining, oil palm and rubber plantations as well as large-scale fortress conservation rushed to this region in frenzy, grabbing whatever land they could along the way without much transparent formal procedure that is at least acceptable in any international standards. Most of those who got land for whatever purposes turned out to be those close to the military. But nationally, only about one-fourth of farmland concessions were made productive, triggering calls to return unproductive portions of these lands (San Thein et al., 2018). It has become quite casual to declare that majority, or three-fourths of land deals in Myanmar are ‘failed’ enterprises because they remain ‘unproductive’.

There are different ideal-typical cases of such Non-operational land deals, and in Tanintharyi one of the most infamous types is the land concession landscape marked by clear-cut, unproductive land. If one travels by land and crisscrosses the Tanintharyi region from the north to the south, from the coast to the mountains and back, there is one ubiquitous type of a landscape: along the road, one sees a thin line of oil palm trees, but when one looks beyond such a side-road thin curtain of palm trees, one would see empty landscape that is obviously a clear-cut forestland. This is how many of the land concessions actually look like. Villagers and other observers of the region are quick to offer animated explanation about such a strange landscape. From one villager testimony to another what we would hear for an explanation is the following: one legal and easy way for logging companies to harvest timber is to have a land concession, officially promising to pursue an agribusiness enterprise (e.g. oil palm or rubber plantation). Once they harvested the timber, they tried to hide their activity by planting a thin curtain of oil palm trees along the road. They then leave the area, although not completely because many seem to be engaged in speculation of the future value of the land, and thus ensure that villagers do not re-engage the cleared area.

Myanmar is one of the hotspots of the global land rush (Woods, 2011; San Thein et al., 2018). The emerging total hectareage of land deals based on the official documents of the government was roughly 2 million hectares as of 31 March 2013. The extent of land deals is likely to be far more extensive than the recorded 2 million hectares of land. This is because land deals due to four categories of land control grabbing were not included in the 2 million hectares tally, namely (a) everyday forms of land accumulation that tend to be below the radar of formal institutional monitors, (b) big (forest, wildlife, biodiversity) conservation project, (c) mega infrastructure projects such as hydropower, and (d) lands forcibly abandoned by close to a million Rohingyas when they were expelled during the period after the 2013 land deals data. And the so-called failed land deals in the form of unproductive lands is a failure only in the context of the company’s official promise of setting up agribusiness enterprises – but in fact it is completely successful in terms of grabbing land from the ordinary people.

## 3. A bigger scope of the global land rush

Large-scale land deals were spotlighted in the global media in 2008 (Grain, 2013; Zoomers, 2010). At the time of writing, in early 2022, land deals continue. Quantifying the extent of land deals in terms of total hectareage has been a contested matter. One view considers quantitative methods in the study of land deals as important in order to understand their impacts and how these can be governed (Anseeuw, 2013; Dell’Angelo, 2017; Rulli et al., 2013). There is diverging view that sees quantification as misplaced fetishism of land (as a thing) measured in hectares, at the expense of any recognition of social relations among groups of people and the human–nature web of life (Edelman, 2013; Oya, 2013; Scoones et al., 2013). It is also quite common in this second view to see large data banking on land deals that are problematic because these usually include many land deals that were no longer pursued, and so databases, like LM, tend to over-estimate the scope of



the land rush. Specifically, in 2013, this prompted researchers to point out the flaws in overly quantitative approaches to studying land deals. Researchers critical of the database approach argue that estimates of land deals based on LM data are necessarily an *over-estimation* of the extent of land deals because they include data on land transactions that were abandoned, or those that were obviously exaggerated by governments and investors in the course of seeking favorable decisions on land deal making and trying to raise investment funds. A key argument by the critics is: if polluted data are entered into the database, when such data are used, they will pollute any work output (Oya, 2013; Edelman, 2013; Scoones et al., 2013; Zoomers et al., 2016). We build from these two methods. Over-emphasis on quantification of land deals in hectareage terms, while overlooking their implications for political and social relations as well as human–nature interactions is likely to lead, at best, to partial, or at worse, to erroneous understandings of the implications of land deals. At the same time, dismissing the relevance of quantification by focusing solely on social relations and the human–nature matrix will prevent us from grappling with the scope, speed and intensity, as well as the causes, conditions and consequences, of global land deals. Moreover, databases, like LM, *under-estimate* – not over-estimate – the scope of land deals. Identification and quantification of land deals are insufficient – but necessary – steps toward understanding their full implications.

Studies relying solely on LM dataset under-estimate the extent of the land rush because of the following reasons: First, apart from a handful of eastern European countries, LM excludes land deals in Northern, industrialized countries – the European Union, Northern America, Australia and New Zealand – where significant land deals have been documented during the past two decades (van der Ploeg et al., 2015; Desmarais et al., 2017; Fairbairn, 2020; Sippel et al., 2017), and China is extremely under-represented in the database (see for background on China, Andreas et al., 2020; Xu, 2019a). Second, big conservation projects (forest, wildlife, biodiversity, REDD+) are under-represented in the database (Fairhead et al., 2012; Brockington and Duffy, 2011; Arsel and Büscher, 2012), and given the increasing importance of land-oriented climate actions, this is key (Franco and Borrás, 2019, 2021). Third, LM does not consider ‘investment corridors’ such as the Prosavana corridor in Mozambique (14.5 million ha) or Special Economic Zones (SEZs) in its database (as specific land deal is its unit of data banking); these corridors and zones remain key sites of dynamic *wholesale* land and investment prospecting where, even if some investments collapse, the corridor does not necessarily fold (Wolford, 2021; Monjane and Bruna, 2020; Levien, 2013; Lind et al., 2020). Fourth, it is likely that national governments and the media, despite their extensive reports on land deals, may fail to report all subnational land deals, further under-estimating the scope reported to databases and studied by researchers, as one study on Ethiopia shows (Cochrane and Legault, 2020). Finally, and even if (hypothetically) all countries report all land deals, it is not possible for database organizers to pick up and tally all of these deals in part because the very nature of semi-crowdsourcing approaches to database building makes it quite uneven across time and space (see Scheidel et al., 2020; Lay et al., 2021; Anseeuw et al., 2013; Nolte et al., 2016). Ultimately, the scope and coverage of the LM will always be incomplete partly because it relies on a corps of collaborators who are unevenly present and positioned within and across countries. This applies in general to large crowd-sourcing databases, not only the LM. Our point is that this is yet another important source of underestimation, not over-estimation, of the extent of global land grabs.<sup>2</sup>

However, we do not see large databases as inherently problematical, despite their weaknesses as long as the limitations are openly acknowledged. For example, the largest global database on environmental conflicts is the EJATLAS. Reflecting on the usefulness and limitations of this database, Scheidel et al. (2020): 4, underscoring supplied) explained that, “The... EJAtlas dataset is a large convenience sample of

recent and previously documented conflicts from an *unknown* total number of environmental conflicts worldwide.” Emphasis on the ‘unknown’ total number of conflicts that exist in the world is a crucial point. They continued: “Therefore, the dataset is statistically not representative globally; the shown frequencies and associations of observations reflect the distributions *within* the EJAtlas dataset.” This is assuming that all entries into the databases from all sorts of collaborators and volunteers, as well as the various sources that such information were based on (as described by Scheidel et al. in the case of EJATLAS) are all correct and ‘clean’ (which may not always be the case) (see also Temper et al., 2018). Thus, LM database is and will always be inherently limited. And LM does not aspire to come up with a precise statistical representation of everything that exists out there. These caveats are explained by researchers behind the Land Matrix, specifically Anseeuw et al. (2013), Nolte et al. (2016), and Lay et al. (2021).

Finally, it is to be noted that when we count based on various sectoral categories of land deals, e.g. conservation, mining, real estate, and agricultural plantation we are likely to find their geographic areas to be physically overlapping. The implication of counting hectares this way is that we are bound to commit double or even multiple counting of hectareage of land deals as compared to actually existing physical land. Schoneveld (2011) is one of the earliest researchers who correctly pointed out this methodological challenge, as he also highlighted the incomparability of the logics and land area requirements of different sectors, say, real estate compared to farmland. To illustrate this point today, for example, the Hukaung Valley Wildlife Reservation in Kachin State and Sagaing region in Myanmar is about 17,300 square kilometers of land. Subsequent acts of the state provided land concessions to mining companies (about 200,000 acres, plus around 200,000 acres of land for sugarcane and cassava plantation by the Yuzana company – all within the same conservation area). Meaning, if we count them separately, then the total hectares of land affected by land deals will be more than the actual land area of the conservation site. This is multiple counting, and is flawed if we were to count with precision the affected actually existing physical land area. However, if we are tracking and trying to understand the politics of the land rush – and wanting to see the extent of the rush in terms of the cumulative area implicated in the land rush, then we need to count separately the areas touched by the conservation, mining and Yuzana company deals. This too is flawed if we use the logic of actually existing geographic physical area. The only way to understand the political economy of the land rush – especially if we are keen on understanding the various manifestations of ‘primitive accumulation’ processes and expanded reproduction of capital (which we are) – is to look at these two phenomena as inherently intertwined, and the two types of accounting are both relevant, and should be done simultaneously; it is not an ‘either/or’ question of which accounting method to use.<sup>3</sup> This too contributes to the production of Non-operational land deals because ultimately it is not possible to operationalize all the lands implicated separately in overlapping land deals.

Going back to the question of LM dataset, the issue, then, is not whether or not to use the LM database; rather, it is a question of *how* to use it and *for what* purposes. If the aim is to use the inclusive and undifferentiated data in LM to quantify the precise extent of contracted land deals in terms of physical land area, then it is a misplaced aspiration. In this sense, views that LM dataset over-estimates scope of land deals is correct (Oya, 2013; Edelman, 2013; Scoones et al., 2013; Zoomers et al., 2016) – but only under the assumption that Operational land deals are the only ones that matter. If we alter our starting position – as we do in our study – to assume that both Operational and Non-operational land deals, and their dialectical relationship, need to be accounted for, then estimates that attempt to clean-up datasets to remove the so-called ‘failed’ land deals become an *under-estimation* of

<sup>2</sup> We thank one anonymous reviewer for this last crucial point.

<sup>3</sup> We thank one anonymous reviewer for raising the point of multiple counting that allowed us to explain this matter more clearly and explicitly.

**Table 1**  
Scope, categories, and status of land deals.

A: Land Matrix official categorization of land deal status			
		Deal size (ha) <sup>a</sup>	Number
Concluded land deals	In operation	105,724,192	2963
	Project not started yet	3,761,531	194
	Startup phase	26,891,065	530
	Project abandoned	5,759,606	201
	No information	14,230,028	558
	<i>Subtotal</i>	156,366,422	4446
Other	Change of ownership	780,542	21
	Contract expired	157,040	11
	<i>Subtotal</i>	937,582	32
Failed land deals		20,523,866	278
Intended land deals		15,522,720	360
No information		0	129
<b>Total</b>		<b>193,350,590</b>	<b>5245</b>
B: Our study's simplified two-tier categories: Operational and Non-operational			
		Deal size	Number
Operational	Concluded, In operation	105,724,192	2963
	Concluded, Startup phase	26,891,065	530
	Concluded, Project not started yet	3,761,531	194
	Other: Change of ownership	780,542	21
	<i>Subtotal</i>	137,157,330	3708
Non-operational	Concluded, Project abandoned	5,759,606	201
	Other: Contract expired	157,040	11
	Failed land deals	20,523,866	278
	Intended land deals	15,522,720	360
	<i>Subtotal</i>	41,963,232	850
<b>Total</b>		<b>179,120,562</b>	<b>4558</b>

Note: a) The current negotiation status of a deal determines which size variable (measured in hectares) is used for the aggregated figures and visualizations. For intended and intended but failed land deals, the deal size is intended size, for concluded and concluded but failed land deals, the deal size is current size under contract intended size (if not available, current size under operation) (<https://landmatrix.org/faq/>)

Note: In this dataset, we dropped the sub-category of 'Concluded, No information' (see Table 1-A); thus, the total deal size is only 179.1 million ha.

Source: Land Matrix database, accessed on 6 November 2020.

the scope of the land rush.

#### 4. Towards a simplified, two-tier Operational/Non-operational land deals lens

The LM database is extremely useful, and there are infinite ways its dataset can be read and used, depending on one's purposes. It will, for example, be relevant to look at a particular combination of LM data categories, as follows: (i) transnational and domestic land deals (not least because the boundary between what is transnational and what is domestic capital is actually too blurred to be captured by a dichotomous data counting method) (Fairbairn, 2020); (ii) land deals pre-dating 2000 (that is, the 1990s), since the land rush started in different countries at different times, while the majority of entries in the LM database are from 2000 and later; (iii) all types of institutional mechanisms for grabbing control of land, including contract farming (Oya, 2012; Xu, 2019b); and (iv) lands in extractive industries and forest concessions. In short, LM's Tally 1 (total land deals data in the database) (See Table 1). Following this LM inclusive method, the total scope of all land deal-making is nearly 200 million hectares (or 193.35 million ha to be exact) and 5245 cases (as of November 2020).

In Table 1 the category of 'Non-operational land deals' is introduced. The Operational deals category consists of: (i) Concluded: (a) not started yet, (b) startup phase, (c) in operation; and (iv) Other: (b) change of ownership. The Non-operational deals category consists of: (i) Concluded, project abandoned, (ii) Failed, (iii) Intended, and (iv) Other: (a) contract expired. The category 'No information' in Table 1-A, which has a significant entry of 14.2 million ha, was dropped from our re-tabulation in Table 1-B for the reason that it can belong to either

Operational or Non-operational deals, but since there is no information about the deals, the task of classifying this data to either Operational or Non-operational deals becomes impossible. Thus, there is smaller total of land deals, at 179.1 million ha, if the purpose of a query is to identify which are Operational and Non-operational land deals. But if the query is about the total extent of land deals in the LM database, then even this 'no information' cluster of deals is relevant; and in that case, we use the higher figure of 193.35 million ha. Furthermore, there are data cluster categories that may have contradictions in them. 'Concluded' is generally assumed to imply 'successful' land deals. A sub-cluster in this category, however, is 'Concluded, but project abandoned' — a status that belongs more accurately to 'failed' land deals. Meanwhile, the term 'failed' land deals seems to suggest the deal was definitively abandoned and, that being so, no further implications warrant investigation. But a closer examination shows that what decisively failed was the attempt of a particular land prospector, and not the attempt of the investment prospector (often the state), with the result that the land reverts back to the government pool of land for investment prospecting. It is therefore not a failure in this particular sense. This is concretely illustrated in the case of Procana: what failed was the attempt of Procana (land prospector), but not the (ongoing) attempt of the Mozambican government (investment prospector). The residual category of 'intended' is too open-ended to be useful and seems to be based on an administrative classification.

**Authors' Note:** We would like to make clear to the readers that the data presented in Table 2 does not represent the global distribution of non-operational land deals. There are several non-operational land deals that are not captured by the LM database. For example: if LM would include the non-operational forestry concessions in Central Africa and Indonesia, or the non-operational mining concessions in the Amazon and Zambia, the configuration of the top 10 countries with the most 'failed' land deals would be very different from the current Table 2. What is being conveyed by Table 2 is that there is a lack of systematic engagement in scholarly research on the issue of 'failed' land deals.

What the two-tier framework shows is that its use as a lens provides significantly different perspectives on actually existing realities. Social change in the land rush is the outcome of the dialectically linked Operational and Non-operational land deals. Such a lens will also facilitate tracking dynamic temporal changes of land deals and land deal-making – as again illustrated in the inter-temporal changes from 2009 to 2022 in the 30,000 ha land in southern Mozambique. To illustrate the implications of the two-tier Operational/Non-operational framework, the relevant data are tallied for the top 10 countries with the largest total hectares for the LM category of 'failed' land deals (Table 2-A) and for the proposed categories of Operational and Non-operational (Table 2-B). Six countries appear in both lists: Ukraine, Madagascar, Peru, Philippines, South Sudan and Pakistan. Four countries, namely, Uganda, Morocco, Cameroon and Argentina appear in Table 2-A (LM's official category) but not in the Table 2-B (our alternative) tabulation. Sudan, Mozambique, Ethiopia and Sierra Leone appear in our alternative Table 2-B, but not in the official LM Table 2-A. More importantly, the Non-operational category has a total of 32.16 million ha (Table 2-B), a huge portion of the LM database but were addressed in less than a dozen journal articles. Three countries (Philippines, Ukraine, Pakistan) received no attention in any journal article.

Non-operational land deals remain generally ignored in the academic literature. Using this two-tier system, we conduct a systematic literature review, as explained in the beginning of the paper. As earlier mentioned, between 2000 and 2020, there were 1370 (Web of Science) published journal articles that are about large-scale land deals, of which only 2% or 29 out of the total 1370 articles concern some aspects of Non-operational land deals (see Table 3). Notably, even for these 29 scientific articles, land deals in LM's in-house categories of LM's '(i) Concluded: (d) abandoned', '(ii) Failed', '(iii) Intended', and '(iv) Other: (a) contract expired' – or what we label as 'Non-operational land deals' are not the central focus. This is problematic, not only because it means that

**Table 2**  
Land Matrix Top 10 countries on 'failed' land deals and Non-operational land deals.

A: Top 10 countries, failed land deals in LM in-house official tally						
Order	Countries	Area of failed land deals (1000 ha)	Area of intended land deals (1000 ha)	Area of concluded but abandoned land deals (1000 ha)	Total area of non-operational land deals (1000 ha)	Number of relevant studies <sup>a</sup>
1	Ukraine	3068.124	43.6	279.3	3391.024	0
2	Madagascar	2776.32	71.04	571.156	3418.516	3
3	Peru	1938.054	14	58.379	2010.433	1
4	Philippines	1553.948	3191.923	43.4	4789.271	0
5	South Sudan	1424.3	483.02	399	2306.32	2
6	Pakistan	900.809	475.494	0	1376.303	0
7	Uganda	848.175	14.5	9.287	871.962	2
8	Morocco	700	15.515	0	715.515	0
9	Cameroon	649.632	115.776	3.348	768.756	1
10	Argentina	616.584	0	0	616.584	1
Total		14,475.946	4424.868	1363.87	20,264.684	6 <sup>b</sup>

B: Top 10 Countries, Non-operational land deals in our study			
Order	Countries	Total area of Non-operational land deals (1000 ha)	Number of relevant studies <sup>a</sup>
1	Philippines	4789.271	0
2	Sudan	4137.48	1
3	Madagascar	3418.516	3
4	Ukraine	3391.024	0
5	South Sudan	2306.32	2
6	Peru	2010.433	1
7	Mozambique	1761.017	3
8	Pakistan	1376.303	0
9	Ethiopia	1346.329	4
10	Sierra Leone	1247.478	1
Total		32,164.462	10 <sup>b</sup>

Note: a) details of the search and selection are presented in the [Appendix](#); b) one of the papers, Temper 2019 (26) [in [Table A2](#)], is about global unpursued land deals including land grabs in various countries around the world and thus includes several unpursued land deals in South Sudan, Madagascar, Peru, Argentina and Uganda. Another paper (Williams 2015) focuses on land investment in Africa, and thus includes cases in South Sudan. Another paper (Bräutigam 2013) also focuses on land investment in Africa, and it mentions a case in Cameroon. These duplications should be accounted for and expunged from the dataset.

Note: a) details of the search and selection are presented in the [Appendix](#); b) one of the papers, Temper (2019), is about the global unpursued land deals including land grabs in various countries around the world and thus includes several unpursued land deals in South Sudan, Madagascar, Peru and Mozambique. Another paper (Williams 2015) focuses on land investment in Africa, and thus includes cases in Mozambique, South Sudan and Ethiopia. These duplications should be accounted for and expunged from the dataset.

Source: Land Matrix database accessed on 6 November 2020.

**Table 3**  
Available articles addressing Non-operational land deals.

A: Country frequency of the selected studies <sup>a</sup>			
Study country	Number of studies	Study country	Number of studies
Laos	3	Cambodia	1
Tanzania	2	Uganda	1
India	3	Sudan	1
Indonesia	2	Nicaragua	1
Madagascar	2	Kenya	1
Ethiopia	3	Ghana	1
Zambia	1	Mali	1
Senegal	1	Sierra Leone	1
Guatemala	1	Africa	2
Mozambique	1	Global	1

Note: There is one paper (Baird 2019) that is focusing on two countries, namely, Laos and Cambodia.

approximately a quarter of all land deals have not been subject to scientific inquiry, but equally importantly, because the qualitative elements of what defines the categories of Operational and Non-operational land deals are also not subjected to scientific inquiry. Focusing on the 10 countries with the greatest number of 'failed' land deals in terms of affected land area, we see a pattern that builds toward a global knowledge deficit.

In the LM category of 'failed' land deals, the top 10 countries account for deals with a combined land area of 14.47 million ha. There are only six journal articles that look, to some extent, into some aspects of the 'failure' of these deals. Using our own Non-operational land deals category, we reach a total of 32.16 million ha. There are only 10 journal

articles that address, to some extent, elements of the non-operationalization of these deals. What these data show is that despite the wide extent of the category Non-operational land deals in these 10 countries, only 0.4% of all scientific publications on land deals focus on this category (see [Tables 2 and 3](#)). This suggests an a priori conceptual assumption that Non-operational land deals have no relevance in societies and no scientific importance, rather than empirically based evidence to that effect.

## 5. The production of Non-operational land deals

The production of Non-operational land deals is embedded in the very logic of the land rush. A land rush has inherent features that include speculation, spectacularization, tight competition, urgency, and constant interaction (competing or otherwise) between 'land prospectors' and capital prospectors (and so, it is not only about 'land prospectors' or popularly known as 'land investors' seen independently from 'capital prospectors' alone). We can partly see how the combination of these elements work in the contemporary land rush by fusing together key literature from land grabs (e.g. [Kaag and Zoomers, 2014](#)), 'economies of appearances' and its associated 'spectacular accumulation' ([Tsing, 2000](#)), and financialization of agriculture ([Fairbairn, 2020](#); [Clapp and Ryan Isakson, 2018](#)). What this means is that the sum total of the area of land being projected by these actors are most likely to be far bigger than what is necessary or feasible for the enterprises in reality, and the actually existing physical land area. This was the same in most other types of commodity rushes in history, from land to guano to gold rushes ([Mountford and Tuffnell, 2018](#); [Cushman, 2013](#); [Hightower, 2018](#)). That not all lands that were projected or acquired would be pursued or made

**Table 4**

Summary of frequencies from the systematic review: *Causes* of non-operational land deals.

Cause	Number	%	
Socio-agronomic and socio-economic factors	Bankruptcy of investors	4	6.3%
	Socio-agronomic and technological constraints	15	23.8%
	Failure to generate expected/ speculated investments/financial crises of investor	9	14.3%
	Collapse of crop and commodity prices	2	3.2%
	<i>Subtotal<sup>a</sup></i>	25	39.7%
Institutional factors	Change in government policies	3	4.8%
	Collapse of government/regime change	5	7.9%
	Investors not meeting the terms of contracts	1	1.6%
	Failure to acquire land	6	9.5%
	Insufficient state support of host country	2	3.2%
	<i>Subtotal<sup>a</sup></i>	16	25.4%
Political interactions	Intra-elite competition, conflict and contentions	8	12.7%
	Opposition from affected villagers	42	66.7%
	Opposition from domestic and transnational advocacy groups	30	47.6%
	<i>Subtotal<sup>a</sup></i>	47	74.6%

Note: Some of the cases mentioned more than one factor within the main cause. The subtotal here refers to the number of cases that mentioned one or more factors within the main cause.

productive is, therefore, something that is not unexpected. Thus, in understanding Non-operational land deals, it is important to look into: (a) widespread hyperbolic claims by land and capital prospectors in terms of the available agronomic and socioeconomic requirements for land investments; (b) efforts to change pre-existing institutional and political conditions that could facilitate or hinder spectacular dreams for high return to investments, and (c) reconfiguration of pre-existing patterns of social relations among classes and groups implicated in the process over time. We elaborate our discussion on these dimensions, and use insights from our systematic review of the literature to grasp the state of the art and the future challenge for research.

First, claims by land and investment prospectors about the abundance and availability of the *socio-economic requirements* tend to be 'realistic'. Such claims include: cheap cost of land (most of the lands acquired, especially those claimed and reallocated by the state were provided to investors at token costs), cheap labor (especially in Global South settings where a huge supply of precariat exists, and even in the North where access to migrant wage workers is relatively easy), low taxes (states, as capital prospectors, tend to entice investors with tax holidays), and tapping to existing trade privileges by the host country such as the European Union's 'Everything But Arms' (EBA) special trade arrangement with many countries in the South. So, while claims about these requirements are presented in spectacular way, more or less they are 'unbelievable-but-true'. The more problematic hyperbolic claims tend to be those related *agronomic variables*: soil quality, weather, and water supply appropriate to the projected levels of production and productivity of particular crops. States as capital prospectors tend to peddle lands they thought they could easily acquire and reallocate. The early spectacular claims about jatropha being a wonder crop that could grow in poor quality, unirrigated soil under harsh weather condition proved to be not so true (if there is a minimum level of productivity that is expected). This is largely the reason for the quick boom-bust cycle for jatropha, but also to other crops (Antwi-Bediako et al., 2019).

The spectacularization by both land and capital prospectors alongside their hyperbolic projections of agronomic and socioeconomic dimensions of land investments have resulted in a substantial quantity of Non-operational lands deals. As soon as spectacular claims do not seem

**Table 5**

*Impacts* (short, medium and long-term) of Non-operational land deals, from the systematic review.

A. Short-term and medium-term consequences of extracted cases				
Cause		Number of land deal cases (N = 63)	%	
Socio-agronomic and socio-economic factors	Displacement/expulsion of villagers	10	15.9%	
	Partial development	11	17.5%	
	Forest clear cutting	6	9.5%	
	Compensation not paid	1	1.6%	
	Compensation paid	1	1.6%	
	Negative ecological impacts	7	11.1%	
	Damage to villagers' livelihoods	8	12.7%	
	Social fragmentation	0	0.0%	
	Labor employment	3	4.8%	
	Out-grower	0	0.0%	
<i>Subtotal<sup>a</sup></i>	19	30.2%		
Institutional factors	Change of regulatory environment - market transactions	3	4.8%	
	Change of regulatory environment - procedures	2	3.2%	
	<i>Subtotal</i>	5	7.9%	
Political interactions	New political collectivities being formed	0	0.0%	
	Collective campaigns	1	1.6%	
	Everyday forms of resistance	0	0.0%	
	Intra-elite division	0	0.0%	
	<i>Subtotal</i>	1	1.6%	
Land control status	Land returned to villagers/previous users	7	11.1%	
	Land returned to the government	0	0.0%	
	Land reallocated to another investor	3	4.8%	
	Land reallocated to another group of villagers	1	1.6%	
	<i>Subtotal</i>	11	17.5%	
	B. Long-term consequences			
	Item		Number	%
	Socio-agronomic and socio-economic factors	Environmental degradation	0	0.0%
		Social differentiation	0	0.0%
		Social reproduction	0	0.0%
<i>Subtotal</i>		0	0.0%	
Institutional factors	Long-term reframing/re-planning of land use	5	7.9%	
	Changes in customary institutions/tenure system	2	3.2%	
	Enhanced state-building	0	0.0%	
	Regulatory institutions at different levels	0	0.0%	
<i>Subtotal</i>	7	11.1%		
Political interactions	Change of collective campaigns	0	0.0%	
	Change of political collectivities	0	0.0%	
	State-citizen interaction	0	0.0%	
	Changing geopolitical configuration	0	0.0%	
	<i>Subtotal</i>	0	0.0%	

Note: Some of the cases mentioned more than one factor under the same cause. The subtotal here refers to the number of the cases that mentioned one or more factors under the item.

Note: In this table, the percentage is used to show the percentage of the cases reviewed (63 land deals) that mentioned the corresponding consequences, but it does not reflect the probability of a consequence that actually occurred in a land deal on the ground.



to be real, projected or speculated investments are not realized or even withdrawn, just like what happened in the case of Procana. In the 63 land deal cases from the 29 journal articles that we systematically reviewed, 40% (or 25 cases) of land deal cases studied therein have somewhat identified agronomic and socioeconomic variables as causes of Non-operational land deals. The most common reason among the 25 cases, 15 cases flag the issue of agronomic and technical constraints as well as socioeconomic factors. On many occasions, this mismatch between hyperbolic claims and actual reality led to the failure to generate the speculated investments (9 land deals) and at times led to the bankruptcy of companies (4 cases) (see [Table 4](#)).

Second, the pre-existing institutional conditions, that is, the conditions of formal and non-formal, state and non-state procedures, rules and norms that govern land deals, necessary for the realization of the hyperbolic projections almost always fall below the spectacular premises and promises. For example, the assumption that the land claimed and being reallocated by the state is 'empty', 'un-used' and 'available' is almost always not true, and is, on most occasions, politically contested. States as capital prospectors almost always have to alter institutions conditions to enable and facilitate land transactions, and even these are often politically contested. We see this in the case of Procana. In Myanmar, the Vacant, Fallow, and Virgin Land Management (VFLM) Law declares that lands in which villagers failed to make legally approved land rights claims are then assumed and declared to be vacant and eligible for reallocation ([Ra and Ju, 2021](#); [Ra et al., 2021](#)). The failure of states to secure appropriate institutional conditions may lead to Non-operational land deals. In some cases, land and capital prospectors informally subvert existing institutional procedures that could also lead to some types of Non-operational land deals. For example, as shown in the Myanmar case, one of the ways through which logging companies can clear-cut forest and harvest timber is to have a land concession, promising to pursue oil palm or rubber plantation. In reality, the company only wanted to extract timber, and once this agenda is consummated, the concession site is left idle even when villagers remained prohibited from accessing such land.

In the systematic review, the institutional factors contributing to so-called failed land deals has been address in 25% of the 63 land deal cases. The most common institutional reasons for the failed land deals are: (a) 'failure to acquire land' (6 cases) which almost always mean that government promised to reallocate land, but it turned out that assumptions that such lands are 'empty', 'un-used' and 'available' are not correct, and (b) collapse of government or regime change whether at the host country (e.g. Madagascar in 2009) or of the investing country (e.g. Libya). Other reasons are policy changes (3 cases) that impacted on projections such as the land investment size ceiling or moratorium that were implemented in several countries at some point (e.g. Tanzania, Cambodia), and investors not meeting the terms of the government (1 case) (e.g. extent of land utilization within a given period) such as in the case of Procana.

Third, corporate investments tend to avoid getting entangled in complex politics, but at the same time they needed to engage in political maneuvers to secure their land acquisition in the first place. The act of altering or attempting to alter institutional conditions and pre-existing patterns of access to land means that land acquisition is inherently political. Changing the pattern of a range of access to a range of land and nature is a relational and often zero-sum process: a party gains access means some parties lose that access (following the assumption that so-called 'nature' is almost always a 'labor-nature' matrix as [Moore \(2017\)](#) has argued). It is a political process, and thus, inherently fluid, dynamic and unpredictable – and the changing balance of political forces can exacerbate the already hyperbolic projections about the land rush resulting in diverse and uneven trajectories of land deals where some are pursued while others not ([Borrás and Franco, 2013](#); [Hall et al., 2015](#)). The structure of political opportunity and threat ([Tarrow, 2011](#)) for social groups for or against land acquisition are altered in the deal-making process. This is, in turn, trigger intra-elite competition,

resistance from some section of the villagers and their allies in their community and beyond, and so on. When the balance of social forces leans in favor of resistance, land acquisitions may result in Non-operational land deals. The mass mobilization locally, nationally and international against Prosavana project in Mozambique may have contributed to the non-pursuance of that mega project ([Monjane and Bruna, 2020](#)). This political dimension of the causes of Non-operationalization is probably the most common among the 63 land deal cases in the 29 articles reviewed systematically. Resistance by villagers is the most common cause of Non-operationalization of land deals, flagged in two-thirds of all 63 land deal cases, and 48% (or 30 cases) identifying opposition from advocacy groups nationally and internationally. There are 8 land deal cases in which intra-elite competition and conflict are also accounted for the Non-operationalization of land deals.

Finally, and ultimately, land deals are class relational, and following EP Thompson's notion of class, we argue that land deals are also relational, historical and cultural. This implies that land deals can only be understood through a series of observations historically, and how social relations around a range of access to a range of land and resources are unevenly altered across time and space. In this context, when we say 'Non-operational land deals' it necessarily means a situational condition at a current conjuncture. It does not mean it will stay that way permanently. Yet it is important to understand the nature of the conjuncture, how particular land deals arrived to that condition, and what are the possible future trajectories from such a conjuncture.

One step towards a better understanding of Non-operational land deals would be a comprehensive examination of their multiple causes (socio-agronomic and socio-economic, institutional, and political interaction) and their interrelationship. However, the treatment of these factors in the 63 land deal cases in the 29 journal articles is highly uneven and too scattered to provide a coherent picture: the overwhelming majority look only at a very incomplete range of factors. There are only seven articles that appear to address all three factors interrelatedly, but even here, a closer reading of these seven articles reveals a very uneven treatment of the three factors.

## 6. Impacts of Non-operational land deals

The difficulty in arguing about the impacts of the 'Non-operational land deals' is because of the general assumption that concrete impacts are generated only by 'Operational' land deals. It is true that concrete impacts are generated by Operational land deals, but not only. The range of Non-operational land deals that we identified and explained in this article will show that Non-operational land deals have concrete impact too. The impacts of Non-operational land deals can be understood by examining their implications for social relations around a range of access to a range of land and resources by multiple groups of people (property relations); labor; distribution of benefits, income and profit; consumption and social reproduction; and ecology. These can be observed or projected in short- and medium-term.

First, impact on land control. Some types of Non-operational land deals may have altered, partially or fully, the distribution of access to land, and after stoppage, withdrawal, or scaling down of these deals some lands were returned to the villagers or that the villagers were not prohibited from reoccupying such lands. In our systematic review, there were 11% of 63 land deals cases mentioned such dynamics. But it is likely that lands that were formally acquired by the state are not actually returned to the villagers. The two cases from Mozambique and Myanmar that we presented in the beginning are two types of Non-operational land deals in which the pattern of access was altered, and was not reverted back to their pre-land deal condition; meaning, villagers who lost access have not regained such access. In our systematic literature review ([Table 5](#)), there are at least 3 land deal cases demonstrating this condition. What is the extent of cases where acquired lands are not being returned to the villagers despite the non-operationalization of the

enterprises – is an empirical question that requires further and careful investigation.

Second, agronomic and ecological impact. Despite having been stopped, Non-operational land deals may have already caused damage on agronomic and ecological conditions of the land and affected communities. This is illustrated in the case of Myanmar described in the beginning where the main purpose of the so-called land investment was to extract timber. In the case of Myanmar, this type of impact does not seem to be random and isolated, but rather represents a pattern. Whether there is similar pattern in other countries is an empirical question that requires careful investigation. In the Procana case, there was already an initial and partial land clearing. In our systematic review, there are 11% of all land deal cases we reviewed where negative ecological impacts have been flagged, and 6 cases where forest clearing was carried out. There is also a total of 11 cases where partial development of the land was done which may also suggest ecological impact during the land clearing (Table 5).

Third, socioeconomic impact. Non-operational land deals have concrete socioeconomic impacts as well. In the Myanmar case, many villagers lost access to their land when this was given to investors who turned out to be more interested in timber harvesting, or who then resorted to labor-saving capitalist enterprises. In the Procana case, negative impacts on livelihoods were concrete despite the withdrawal of Procana. In our systematic review, 10 cases involved displacement and expulsion of villagers from their land, and 16% of all cases show damage to villagers' livelihoods (with 5% involving negative impact on wage work and employment issues.) (see Table 5).

Fourth, impact on institutions (formal and informal, state and non-state policies, procedures, norms) while may not be immediately obvious, can be just as concrete as the impacts discussed above. Perhaps the most common manifestation of this is the normalization and routinization of the state discourse that particular lands are already decided upon to be reallocated to different uses and users other than the current uses and users. Therefore, even when land deals were not pursued at a given moment, it does not mean the land would revert back to previous institutional arrangement. An emblematic case of this type is Procana/MAI where land has not reverted back to the villagers, but has been registered in the central state land bank for which the government continues to look for new investors. This is quite common worldwide, including big investment zones such as the Gambella region of Ethiopia and (the now officially canceled) Prosavana in Mozambique. In our systematic review, 8% of all cases flagged this dimension (see Table 5-A).

Fifth, impact on political power and relations/agency. The discussion above on various forms of concrete impact of Non-operational land deals imply that such type of land deals has concrete impact on political power and power relations involving ordinary villagers. When villagers were expelled from their land and could not regain control despite the withdrawal of a land investor, it speaks of imbalance in power distribution and relations. Only one case in our systematic review has discussed the long-term impact of Non-operational land deals on political agency of villagers.

The various political-institutional trajectories mentioned above where land did not revert back to its initial status is quite common in settings where customary tenure, including indigenous peoples' lands and conservation areas in the land deals. The first act in the land deal-making process is for the state reclassification of the legal status of the land, usually its shift to various institutional modalities assigning the state the authority to decide on what to do with the land. This reclassification can be decisive institutionally, and may not always be reversible as far as the ordinary villagers are concerned about access to land. One of the reasons why government is keen to reclassify lands under customary land tenure is to enhance central state control: politico-

military, sovereignty, and taxation purposes (see, e.g. German et al., 2013).<sup>4</sup>

In short, there are key insights from these data that together constitute our overall findings. First, of the 1370 articles, only a handful go some way to addressing some elements of the Non-operational land deals category. Second, there is no significant mention of the short/medium term institutional and political impacts of Non-operational land deals, and only a moderate degree of attention was focused on socio-agronomic and socio-economic impacts. Third, there is nearly zero mention of any possible long-term impact of this type of land deals. Fourth, the thin treatment of impacts of Non-operational land deals is scattered and unconnected; the extent of studies that address long-term impacts in all three spheres of socio-agronomic and socio-economic, institutional, and political impacts is not very significant. Fifth, while there is little focus in the 29 articles on impacts, the data extracted from the 63 cases suggest that this does not necessarily mean that Non-operational land deals have no actual and potential impact and consequences; it only means that existing scientific research has so far largely ignored this issue, resulting in a major knowledge deficit. Finally, although the thin and scattered empirical data that we were able to gather from the 29 articles do not offer any coherent insights to help us understand the impacts of Non-operational land deals, the data extracted do provide enough preliminary *prima facie* evidence, or a reasonable basis, to validate our assumption that Non-operational land deals have important impacts that merit empirical investigation.

## 7. Conclusions and implications for future scientific research

Quantifying the extent of land deals in order to study the social phenomenon better necessarily spotlights the relevance of two distinct but dialectically linked 'scopes', namely, the scope of land deals in terms of the precise geographic physical land area of Operational land deals, and the scope of land deals in terms of the larger extent of lands implicated in land deal-making, of which only a part ends up as operational land deals. The latter category is necessarily bigger than the former, and its logic partly results in the production of Non-operational land deals.

Three main conclusions emerge from our study. First, Non-operational land deals that include so-called 'failed' land deals have a critical value to land and investment prospectors on the one hand, and to scientific investigation on the other hand. Ignoring this large category of land deals seriously hampers researchers' quest for a full understanding of the causes, conditions and consequences of global land rush. This makes a two-tier method of accounting for global land deals, namely, Operational and Non-operational land deals, indispensable. Second, applying the two-tier method of accounting – to account for Operational and Non-operational land deals – we come to the conclusion that in both quantitative and qualitative terms, the actual scope of land deals is far bigger than previously realized, but their causes and drivers, conditions and consequences remain only partially understood. This is because studies have so far been conducted almost exclusively into Operational land deals, which leaves a significant proportion of global land deals under-investigated. The resulting knowledge deficit is persistent and far-reaching. Third, the challenge is not simply to study the Non-operational land deals in addition to the Operational land deals; rather, it is to treat the two as distinct but co-constitutive.

There are a number of implications of our findings for future research. First, by revising what we count, and why and how, in

<sup>4</sup> In 'social reproduction' we are keen here to see the elements related to the difficulty of households to survive having lack/uneven and inconsistent access to sufficient food, clothing, shelter and care (e.g. informal access to community forest for foraging, firewood gathering etc.) – as a consequence of land grabs. For further relevant discussion on land in the context of social reproduction, see Borrás et al. (2021).

quantitative and qualitative terms, we alter the very subject of scientific research. This also implies that Non-operational land deals have actual and potential impacts on social relations and the human–nature web of life, but what these impacts and consequences are remains largely unknown, and ought to be researched. A systematic adjustment of the ‘why’, ‘what’ and ‘how’ to count in relation to land deals and their impacts on social relations and the human–nature web of life will necessarily recast our method of inquiry. It neither invalidates previous studies, nor offers an alternative or competing method of inquiry; rather, it offers a complementary method that is relevant if we want to understand better the broad social phenomenon of global land deals. Second, the study does not downplay the relevance of either qualitative or quantitative research methods in land grabs study; it validates and enriches both approaches, while further suggesting that a continuum between these two methods, that is, mixed methods, may offer additional value to the research process. Third, if and when the scope of a scientific inquiry is broadened from the currently dominant Operational land deals-centric to give attention to Operational *and* Non-operational land deals, then ‘garbage data’ — that is, the hyperbolic, spectacular, improbable and unrealistic claims and projections made by land and investment prospectors — become just as compelling and important as the so-called ‘clean’ data. This has implications on how one frames and deploys the commonly used case study method in land grabs research which has often been interpreted as specific case at the local level of corporate land deals that have been operationalized. Pairing operational with non-operational land deals for a case study can allow us to combine Lund’s notion of the ‘concrete’ at the specific and general levels, that is,

of combining specific ‘observations’ and general ‘patterns’ (Lund, 2014: 225). This may enable the study of impact of land grabs not only at the local level of directly and immediately affected local communities, but at a ‘landscape’ level (Mitchell, 1996; Hunsberger et al., 2017) and society-wide, a task that remains a difficult and urgent challenge for the research community.

**Acknowledgement**

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**Appendix. Protocol of systematic literature review**

Purpose: To systematically explore and map the cases of land deals that are never pursued; to understand the reasons behind those non-operational land deals; to explore the impacts of non-operational land deals.

Research question: Why have many announced large-scale land deals not been contracted and/or operationalized? What are the outcomes and

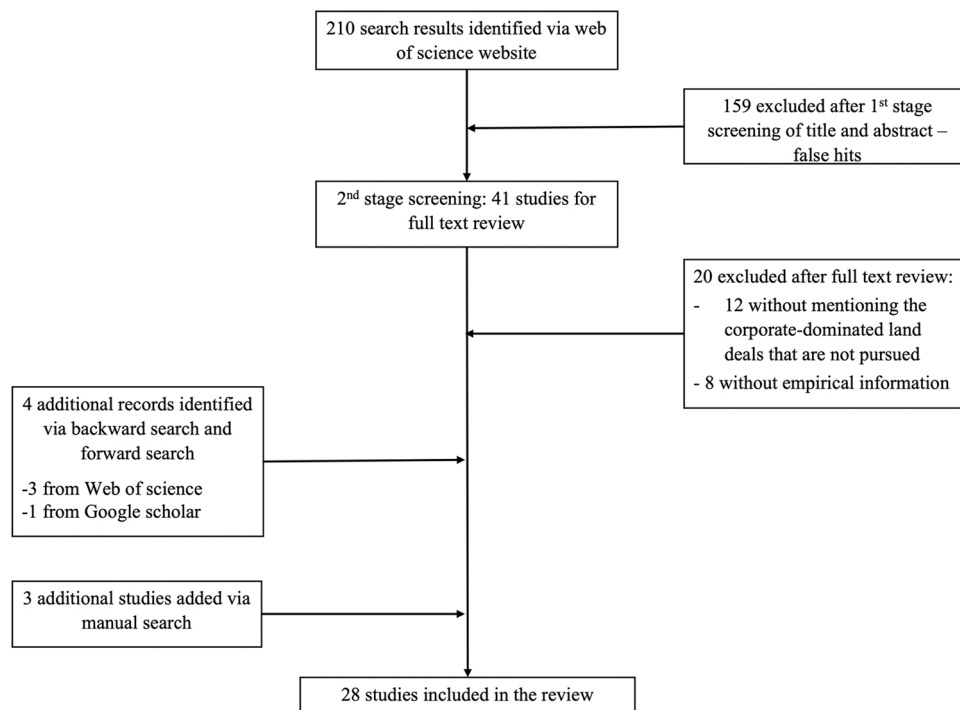


Fig. A1. Flow chart.

**Table A1**

Key words.

Set	Category	Synonyms
Set 1	Land deals	Land grab*, large*scale land acquisition*, land deal*, land investment*, land rush, land*MOU, land*MOA, land contract*
Set 2	Non-operational	Fail*, block*, cancel*, not*realize*, cancel*, shut down, abandon*, speculat*, not*pursue*, withdraw*, reduce*, stall*, bankrupt*, stop*, revise*, roll*back, reverse*

**Table A2**  
29 journal articles reviewed.

No	Publication ID	Authors	Year	Article title	Source title	Study region	Citations (July 13 2020, WoS)	Citations (July 13 2020, GS)
1	Baird2019	Baird, IG	2019	Problems for the plantations: Challenges for large-scale land concessions in Laos and Cambodia	Journal of Agrarian Change	Laos and Cambodia	0	0
2	Chilombo2019	Chilombo, A; Fisher, JA; van der Horst, D	2019	A conceptual framework for improving the understanding of large-scale land acquisitions	Land Use Policy	Zambia	0	0
3	Prause2019	Prause, L	2019	Success and failure of protest actors' framing strategies in conflicts over land and mining in Senegal	Canadian Journal of Development Studies / Revue canadienne d'études du développement	Senegal	0	2
4	Temper2019	Temper, L	2019	From boomerangs to minefields and catapults: Dynamics of trans-local resistance to land-grabs	Journal of Peasant Studies	Global	10	16
5	Belair2018	Belair, J	2018	Land investments in Tanzania: Assessing the role of state brokers	Journal of Modern African Studies	Tanzania	2	2
6	Meilasari-Sugiana2018	Meilasari-Sugiana, A	2018	Oil palm companies, privatization and social dissonance: Towards a socially viable and ecologically sustainable land reform in Tanah Laut Regency, South Kalimantan, Indonesia	Journal of Political Ecology	Indonesia	0	0
7	Devine2018	Devine, JA	2018	Community forest concessionaires: Resisting green grabs and producing political subjects in Guatemala	Journal of Peasant Studies	Guatemala	13	24
8	Neimark2016	Neimark, BD	2016	Biofuel imaginaries: The emerging politics surrounding 'inclusive' private sector development in Madagascar	Journal of Rural Studies	Madagascar	9	13
9	Wendimu2016	Wendimu, MA	2016	Jatropha potential on marginal land in Ethiopia: Reality or myth?	Energy for Sustainable Development	Ethiopia	13	30
10	Williams2015	Williams, TO	2015	Reconciling food and water security objectives of MENA and sub-Saharan Africa: Is there a role for large-scale agricultural investments?	Food Security	Africa	7	9
11	Bedi2015	Bedi, HP	2015	Judicial justice for Special Economic Zone land resistance	Journal of Contemporary Asia	India	11	21
12	McAllister2015	McAllister, KE	2015	Rubber, rights and resistance: The evolution of local struggles against a Chinese rubber concession in Northern Laos	Journal of Peasant Studies	Laos	30	60
13	Milgroom2015	Milgroom, J	2015	Policy processes of a land grab: At the interface of politics 'in the air' and politics 'on the ground' in Massingir, Mozambique	Journal of Peasant Studies	Mozambique	23	43
14	Martiniello2015	Martiniello, G	2015	Social struggles in Uganda's Acholiland: Understanding responses and resistance to Amuru sugar works	Journal of Peasant Studies	Uganda	34	66
15	Sampat2015	Sampat, P	2015	The 'Goan Impasse': Land rights and resistance to SEZs in Goa, India	Journal of Peasant Studies	India	17	48
16	Hopma2015	Hopma, J	2015	Planning in the wind: The failed Jordanian agricultural investments in Sudan	Canadian Journal of Development Studies / Revue canadienne d'études du développement	Sudan	1	2
17	Schonweger2015	Schonweger, O; Messerli, P	2015	Land acquisition, investment, and development in the Lao coffee sector: Successes and failures	Critical Asian Studies	Laos	19	29
18	Wilson2013	Wilson, BR	2013	Breaking the chains: Coffee, crisis, and farmworker struggle in Nicaragua	Environment and Planning A: Economy and Space	Nicaragua	8	21
19	Burnod2013	Burnod, P; Gingembre, M; Ratsialonana, RA	2013	Competition over authority and access: International land deals in Madagascar	Development and Change	Madagascar	37	95
20	Smalley2012	Smalley, R; Corbera, E	2012	Large-scale land deals from the inside out: Findings from Kenya's Tana Delta	Journal of Peasant Studies	Kenya	39	81
21	McCarthy2012	McCarthy, JF; Vel, JAC; Afiff, S	2012	Trajectories of land acquisition and enclosure: Development schemes, virtual land grabs, and green acquisitions in Indonesia's Outer Islands	Journal of Peasant Studies	Indonesia	72	179

(continued on next page)



Table A2 (continued)

No	Publication ID	Authors	Year	Article title	Source title	Study region	Citations (July 13 2020, WoS)	Citations (July 13 2020, GS)
22	Bräutigam2013	Bräutigam, D; Zhang, H	2013	Green dreams: Myth and reality in China's agricultural investment in Africa	Third World Quarterly	Africa	51	125
23	Purdon 2013	Purdon, M	2013	Land acquisitions in Tanzania: Strong sustainability, weak sustainability and the importance of comparative methods	Journal of Agricultural and Environmental Ethics	Tanzania	11	29
24	Tsikata2014	Tsikata, D; Yaro, JA	2014	When a good business model is not enough: Land transactions and gendered livelihood prospects in rural Ghana	Feminist Economics	Ghana	49	94
25	Oskarsson2014	Oskarsson, P; Nielsen, KB	2014	Development deadlock: Aborted industrialization and blocked land restitution in West Bengal and Andhra Pradesh, India	Development Studies Research. An Open Access Journal.	India	N.A	22
26	Gill2016	Gill, B	2016	Can the river speak? Epistemological confrontation in the rise and fall of the land grab in Gambella, Ethiopia	Environment and Planning A: Economy and Space	Ethiopia	9	26
27	Larder2015	Larder, N	2015	Space for pluralism? Examining the Malibya land grab	Journal of Peasant Studies	Mali	13	29
28	Maconachie2019	Maconachie, R	2019	Green grabs and rural development: How sustainable is biofuel production in post-war Sierra Leone?	Geoforum	Sierra Leone	0	2
29	Tufa2018	Tufa, F, Amsalu, A; Zoomers, EB	2018	Failed promises: Governance regimes and conflict transformation related to <i>Jatropha</i> cultivation in Ethiopia	Ecology and Society	Ethiopia	2	3

impacts of non-operationalized land deals, if any?

Terms within each individual set are connected via OR whereas each set is connected with the other sets through AND. All sets search in the title and abstract of papers. The general search query was: ("land grab\*" OR "large\*scale land acquisition\*" OR "land deal\*" OR "land investment\*" OR "land rush" OR "land\*MOU" OR "land\*MOA" OR "land contract\*") AND ("fail\*" OR "block\*" OR "cancel\*" OR "not\*realize\*" OR "cancel\*" OR "shut down" OR "abandon\*" OR "speculat\*" OR "not\*pursue\*" OR "withdraw\*" OR "reduce\*" OR "stall\*" OR "bankrupt\*" OR "stop\*" OR "revise\*" OR "roll\*back" OR "reverse\*").<sup>5</sup>

Sources/digital libraries: Web of Science (core). To yield database-specific results and to further refine the search, the general query was adjusted for Google Scholar. For Google Scholar we used "canceled land deals" OR "failed land deals" OR "failed large-scale land acquisitions" OR "failed land investment" OR "canceled land investment" (2000–2020). In addition, we also conducted a manual search according to the list of top failed land deals in the Land Matrix database and GRAIN report 2018.

Inclusion criteria: Articles that satisfied the following criteria are included: Language: English; Type of publication: published journal articles from January 2000 to July 2020; Studies that investigate corporate-dominated land deals that are stalled and canceled or not operationalized. We also include cases where land contracts have been concluded, but production has not taken place.

Exclusion criteria: Papers that are not published in academic journals; Papers that do not include empirical information on non-operational land deals; Land deals that are scaled down after contract/

<sup>5</sup> Contract farming and logging/mining concessions are very critical forms of land control by investors. We have noticed that although some of our search outcomes with the key words listed in the table have included some cases in these two forms, some other cases might have been missed in our search because of our decision to drop the key words "concession" and "contract farming" out of practical reasons' (that is, inclusion of these two key words resulted in far too large a search outcome most of which were irrelevant to our study).

MOU signed rather than land deals that are not pursued; Land deals that are not corporate-dominated; Duplicated items.

Study selection: We conducted a two-stage selection process, as shown in the flow chart. The whole process was conducted by two reviewers (A and B) independently. In addition, there was another reviewer (reviewer C) who was involved in discussions to resolve any differences. All discrepancies were resolved with discussion and consensus.

It is to be noted that we did not include books in our systematic review. All authors have been researching the issue of global land deals for the past decade, and hence, are deeply familiar with the literature that are in book format. To our knowledge, the only book that is relevant to our study is the edited collection by Kaag and Zoomers (2014) that discusses about the notion of 'hype', and three book chapters therein (Schoneveld and Shete, 2014; Abdallah et al., 2014; Nooteboom and Bakker, 2014). The book chapter by Engstrom (2020) is also relevant.

At the first stage of the search, we used the key words identified in Fig. A1 to conduct the search in the Web of Science (core collection) electronic database. This procedure resulted in 210 potential primary empirical studies for screening. We screened the titles and abstracts of all these studies and excluded 159 studies which were irrelevant to our topic. At the second stage, we read the full text of the 41 remaining identified papers. At this stage, we (i) excluded 12 studies that did not fit our search and did not contain information about the corporate-dominated land deals that are non-operational; and (ii) excluded eight studies that did not include empirical cases. During this stage, reviewer A selected 25 studies and reviewer B selected 24 studies for inclusion. Among these selected studies, 23 of them were common to both reviewers' lists. Two papers were selected by reviewer A but not included in the selection list of reviewer B. One paper was selected by reviewer B, but not by reviewer A. Thus, the level of inconsistency between the two reviewers in applying the inclusion criteria was 11.5% is 11.5% (3/26 \* 100). After discussions with reviewer C, an agreement was reached. Moreover, three papers were excluded after a further round of full-text reading by both reviewers, because the cases in these three papers were not suitable for a more refined definition of corporate-dominated

**Table A3**

Table of data extraction.

Information of studies													
No.	Publication ID	Authors	Year of publication	Article Title	Journal	Citation (till July 13 2020, WoS)				Citation (till July 13 2020,GS)			
General information of land deals													
Host countries	Investors	Origin countries of investors	Amount of money (intended)	Amount of money (actual)	Land size (intended)	Land size (actual)	Stage	Intended land use	Actual land use	Institutional form of land control	Land ownership	Pre-existing land use	Pre-existing land user
Causes				Short-term and medium -term impacts				Long-term consequences					
Socio-agronomic and socio-economic factors	Institutional factors	Political interactions		Socio-agronomic and socio-economic factors	Land control status	Institutional factors	Political interactions		Socio-agronomic and socio-economic factors	Institutional factors	Political interactions		

**Table A4**  
Coding table.

Category	Item	Types	Codes	Description	Sample text	
General information	Intended land use (ILU)	no use	ILU0			
		food production	ILU1			
		conservation	ILU2			
		mining	ILU3			
		industrial tree plantation	ILU4			
		special economic zone	ILU5			
		biofuel	ILU6			
		infrastructure	ILU7			
		flex crops	ILU8			
		raising animals	ILU9			
		Actual land use (ALU)	food production	ALU1		
			conservation	ALU2		
			mining	ALU3		
	industrial tree plantation		ALU4			
	special economic zone		ALU5			
	biofuel		ALU6			
	infrastructure		ALU7			
	flex crops		ALU8			
	raising animals		ALU9			
	Institutional form of land control (C)		purchase	C1		
			pease	C2		
			out-grower	C3		
	Land ownership (PLO)		state owned	PLO1		
		private owned	PLO2			
		collective owned	PLO3			
		customary	PLO4			
	Pre-existing land user (PLUR)	community	PLUR1			
		individual villagers	PLUR2			
		pastoralists	PLUR3			
		migrants	PLUR4			
	Pre-existing land use (PLU)	food production	PLU1			
		community Forest	PLU2			
		grazing land	PLU3			
	Causes (C)	Socio-agronomic and socio-economic factors (SE)	bankruptcy of investors	CSE1		
			socio-agronomic and technological constraints	CSE2		
			failure to generate expected/speculated investments/financial crisis of investor	CSE3		
		Institutional factors (I)	collapse of crop and commodity prices	CSE4		
			change in government policies	CI1		
			collapse of government/regime change	CI2		
			investors not meeting the terms of contracts	CI3		
			failure to acquire land	CI4		
		Political interactions (P)	insufficient state support of host country	CI5		
			intra-elite competition, conflict and contentions	CP1		
			opposition from affected villagers	CP2		
opposition from domestic and transnational advocacy groups			CP3			
Short-term/medium-term impacts (S)		Socio-agronomic and socio-economic factors (SE)	displacement/expulsion of villagers	SSE1		
			partial development (e.g. land preparation, infrastructure building)	SSE2		
			forest clear cutting	SSE3		
			compensation not paid	SSE4		
			compensation paid	SSE5		
	negative ecological impacts (due to chemicals used, biodiversity loss, water pollution)		SSE6			
	Land control status (LC)	damage to villagers' livelihoods	SSE7			
		social fragmentation	SSE8			
		labour employment (local, migrant labour)	SSE9			
		out-grower	SSE10			
Institutional factors (I)	land returned to villagers/users	SLC1				
	land returned to the government	SLC2				
	land reallocated to another investor	SLC3				
	land reallocated to another group of villagers	SLC4				
Political interactions (P)	change of regulatory environment (government, private institutions and social institutions) – market transactions	SI1				
	change of regulatory environment (government, private institutions and social institutions) – procedures (e.g. transparency and consultation)	SI2				
Long-term consequences (L)	Socio-agronomic and socio-economic factors (SE)	new political collectivities being formed	SP1			
		collective campaigns	SP2			
		everyday forms of resistance	SP3			
		intra-elite division	SP4			
Institutional factors (I)	environmental degradation	LSE1				
	social differentiation	LSE2				
	crisis of social reproduction	LSE3				
		long-term reframing/re-planning of land use	LI1			

(continued on next page)

Table A4 (continued)

Category	Item	Types	Codes	Description	Sample text
		changes in customary institutions/ tenure system	LI2		
		enhanced state-building	LI3		
		regulatory institutions at different levels	LI4		
	Political interactions (P)	change of collective campaigns	LP1		
		change of political collectivities	LP2		
		state–citizen interaction	LP3		
		changing geopolitical configuration	LP4		

land deals that are not operational. See Table A1.

We also explored the Google Scholar database to increase search outcome. We first searched in the Google Scholar database using the same key words as above, but after screening the first 22 pages, we found that the key words for the search were too broad for the Google Scholar database, thus many of the search outcomes were irrelevant. After screening the titles and abstracts of the papers in the first 22 pages, we excluded 215 studies that did not contain empirical information of non-operational land deals. We read the full texts of the remaining five studies, and none of these studies fit the inclusion criteria. We then used more refined key words (“canceled land deals” OR “failed land deals” OR “failed large-scale land acquisitions” OR “failed land investment” OR “canceled land investment”) for the search in the Google Scholar database to reach a more comprehensive outcome. This procedure resulted in 38 studies that were published in or after the year 2000. We screened the titles and abstracts and included one study for full-text reading. However, this paper did not include empirical information on non-operational land deals. Thus, we did not get any results that fitted our inclusion criteria. We also did backward search and forward search and identified four studies via backward search only. Among these four papers, three papers were based on the backward search of the 41 papers identified at the second stage of the Web of Science search, and one was based on the backward search of the papers further identified during the full-text reading from Google Scholar. Finally, we did a manual search based on the failed land deals listed by the Land Matrix and GRAIN databases, and identified and included four studies. Table A2, Table A3 and Table A4 present the list of the selected primary empirical studies, data extraction, and review codes, respectively.

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