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Land Grabbing and Jatropha in India: An Analysis of ‘Hyped’ Discourse on The Subject

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Abstract: In the early 2000s, powerful narratives (re-)emerged around the food–fuel–land nexus, which, combined with the financial, food, and fuel crises of 2007–08, sparked new concerns about the finiteness of our resources and triggered, as well as partially justified, the then following land rush. Around the same time, a hyped debate also developed around biofuels as a potential fix to some of the global scarcity problems in which jatropha held a particularly prominent position as a new miracle crop. This study examines the concurrence of jatropha and the land grabbing hype in India, the leading promotor of the plant globally, and asks what effect the global land grab discourse had on actual jatropha investments in the country. To do so, an extensive literature review, discourse analysis, and qualitative survey were conducted, with a specific focus on jatropha investors. The study found that both hyped discourses have impacted investor decisions, but the impact varied depending on the types of company. This study adds a yet underrepresented investor perspective to the global land grabbing discourse and highlights a need to also consider the role of small and medium enterprises in land grabbing processes.

Keywords: land grabbing; jatropha; India; biofuels; hype; discourse

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1. Introduction

The public and scholarly discourse around land grabbing started in the early 2000s, intensifying from 2010 onwards. Initially, reports on land grabs appeared as media headlines, public announcements, and as publications authored by non-governmental organisations (NGOs) and international institutions. The initial interest in this (new) phenomenon rapidly evolved into a real hype [1–3], which was not merely based on the severity of land grabbing’s (assumed) impacts. As Sändig [4] points out, the prominence of the topic was also rooted in the fact that its framings, often employing powerful rhetoric and building on familiar, iconic images, resonated well with the public audience. Activist engagement with the topic has from the start been accompanied by its scholarly examination and both have played a key role in articulating the global land grab debate [5–6].

Almost a decade before the land grabbing discourse took off, the hype around biofuels commenced. By hype, I mean purposive but not necessarily informed promotion of different sides of the debate’. While initially the excitement around biofuels focused on finding a clean and secure alternative to fossil fuels, multiple other expectations have been attached to them over the course of the “biofuel boom” [7] (p. 791), such as to mitigate climate change, foster domestic energy security, generate employment, create opportunities for smallholder farmers, and reduce poverty [7–9]. Within the discourse around biofuels, around the same time, so-called flex crops gained more and more prominence [10]. Flex crops are crops that have multiple uses such as food, feed, fuel, or industrial material that can supposedly be easily and flexibly interchanged. These booming crops such as corn, oil palm, soy or sugarcane, that form the basis of an envisioned bio-economy in which nature or agriculture becomes “the oil well of the 21st century” [10] (p. 95), are also

being referred to as “discursive commodities” [11], indicating that a complex and dynamic set of narratives exists around their promotion.

Although *jatropha* does not have the high material flexibility of oil palm or sugar cane as it cannot be consumed as food, and can only be made into livestock feed if it is first detoxified, it has also been included into the group of flex crops [12]. Early in the biofuel boom, it emerged as one of the most hyped plants supposedly satisfying all the expectations attached to biofuels. Similar to the early discourses around biofuels in general or about the potential positive and negative effects of large-scale land investments, the hype around this new miracle crop was based on specific narratives and a narrow discourse on its potentials. Early on, it was wishes and beliefs rather than scientific facts that fueled the interest in *jatropha*. Nevertheless, the hype had taken off as “people tend to adopt beliefs first, then seek confirming evidence, ignoring anything contradictory” [13] (p. 230).

The biofuel boom soon became intertwined with the global land grabbing discourse as it became clear that many, if not the majority of so-called intended or closed land deals were made with the purpose of establishing bioenergy projects [14]. Also, in the case of biofuels, it became apparent that the lands intended for such projects were seldom empty or unused which triggered land conflicts. The biofuel cases also made clear that the state, as the promotor of such projects, often plays an active or even ‘complicit’ role in land grabs [15,16] which added a new emphasis to the global land grabbing discourse and shifted its focus away from the early assumption of mainly northern, richer, foreign actors as being the main grabbers and drew more attention to the role of domestic actors in land grabs.

India, in the early 2000s, became the stage on which both hyped discourses coincided, firstly the one around biofuels in general and *jatropha* in particular, and secondly the one around land grabbing. As in many other countries in which the majority of the population continues to be dependent on agriculture for food and livelihood, land is of great economic and social value [17] and land conflicts in India are nothing new. Living in a particularly densely populated country, Indians knew about land grabbing even before the world started talking about it. So-called “land wars” [18] in India are much older than the more recent land grab debate itself and the term ‘land grab’ has become “integral to the [Indian] media and civil society lexicon” [19] (p. 43).

Despite the existing pressure on and conflict around India’s land, the Indian government in 2003 launched its National Biofuel Mission, which intended to produce biofuel on more than 13 million hectares of land with *jatropha* being the preferred source. The National Biofuel Mission and the following National Biofuel Policy of 2009 both employed a narrative of rural development and national energy security. The government used a very specific and narrow discourse in promoting biofuels in general and *jatropha* in particular, reusing and reinforcing unproven claims that had been made about the plant elsewhere [20,21]. Interestingly, the mere declaration of these policies put India into a top spot in the global land grabber list compiled by the then most popular database among land grabbing researchers and activists, the Land Matrix [22]. At the same time, a similar top spot among the crops whose production trigger land grabbing processes worldwide was occupied by *jatropha*.

Roughly one decade after the hype around *jatropha* has largely ebbed away, or has, as is the case with the scholarly land grabbing discourse, matured into a more reflective and critical discussion, this paper asks the main research question of: (1) what effect the land grabbing discourse itself had on actual *jatropha* investments in India. In a country where land is a very sensitive and contested issue, where “everybody who wants to buy land is [seen as] a criminal” [23] (p. 118), did the global debate on the land grab phenomenon ‘scare away’ investors from taking on the opportunities offered by the government? A sub-question to this is: (2) if and to what extent the global land grabbing discourse contributed to the failure of *jatropha* in India, or: (3) whether this failure was mainly the result of a badly planned and badly executed policy that was based on a hyped debate around an under-researched plant?

With these main research questions, the current study aims to add a new aspect to the global land grabbing discourse. De L.T. Oliveira et al. [6] mentioned that “in response to the ‘global land grab’ debate itself, for example, agribusiness capital advances through contract farming” but there is little to no other evidence in academic literature so far on how the land grabbing discourse has affected investment strategies or developments on the ground. This paper addresses two further gaps in the literature: as identified by Vel [11], little scholarly attention has been given so far to “how local actors with commercial objectives respond to the opportunities in relation to *Jatropha*”. I also aim to add a yet underrepresented investor perspective to land grabbing research, which has so far had “a tendency to ignore the perspectives of land investors in case studies” and has paid “less attention [...] to the voices of the investors” [2] (p. 14).

Following this introduction, this paper gives some context around the land grabbing discourse as well as the biofuel discourse and highlights the evolution of *jatropha* as a new miracle crop. It then elaborates on the methods and materials used before presenting the findings of this study. These are discussed in the final section in which conclusions are also drawn.

2. The Hyped Discourses around Land Grabbing and Biofuels

The term “hype” might in itself, and in the context of the current study, sound dismissive or derogatory towards the importance of the issues discussed here, none of which is intended. The term is quite neutrally used in its basic meaning describing “a situation in which something is advertised and discussed [...] a lot in order to attract everyone’s interest” [24]. Such hypes can be interpreted “as manifestation of the growing attention economy [...], where (public) concentration is a limited resource, that must be cultivated and preserved” [3] (p. 148). Hype in that sense is closely related to discourse, as the latter is the medium in which topics unfold. Discourse is understood here as the “ensemble of ideas, concepts, and categories, through which meaning is given to social and physical phenomena, and which is produced and reproduced through an identifiable set of practices” [25] (p. 175). In (hyped) discourse (sometimes antagonistic) actors come together to promote an acknowledgment of a topic in general as well as their specific point of view or stance within it.

Similar to the hype cycle for emerging technologies outlined by Gartner [26], hypes in discourse could also be described as consisting of different phases: (1) the trigger, which is the start of the hype when a certain event kicks off interest and triggers significant publicity, with proof of what actually *is* still scarce; (2) the peak of the hype when inflated expectations about a phenomenon are at their highest; (3) the trough of disillusionment, when interest (slowly) wanes; and potentially a phase (4) in which interest in and discussion about a topic plateaus around a certain level, not necessarily due to the fact that an agreement has been reached nor a mainstream opinion formed, until maybe another trigger kicks off the debate again.

The discourses around land grabbing, biofuels, and *jatropha* could be described as going through such discursive hype cycles. Figure 1 shows how scholarly interest in these topics took off in the early 2000s, reaching a peak around 2012 to 2017, after which scholarly output begins to drop for each of these topics. All three hypes have their own and particular history of formation and staging. In all three cases, different actors shaped the discourse intentionally employing specific, often narrow or excluding narratives. The analysis of such discourses is particularly important given the fact that discourse influences policy-making [25,27]. This has increasingly been acknowledged in the environmental planning domain, for example when analyzing renewable energy policies [20,25]. In the case of biofuels, discourse has an impact on policies world-wide, which, in turn, had a direct effect on land grabbing, for example through the rising demand of feedstock¹ and therewith land to grow it on as a result of fixed fuel blending targets [28]. The discourse around land grabbing, again, is trying to have and is having an impact on, for example, investment policy and the governance of land rights. It is often this direct power that

comes from influencing or even dominating discourse that motivates actors to participate in it, each of them having their own set of goals and using it for their own specific purposes [27,29].

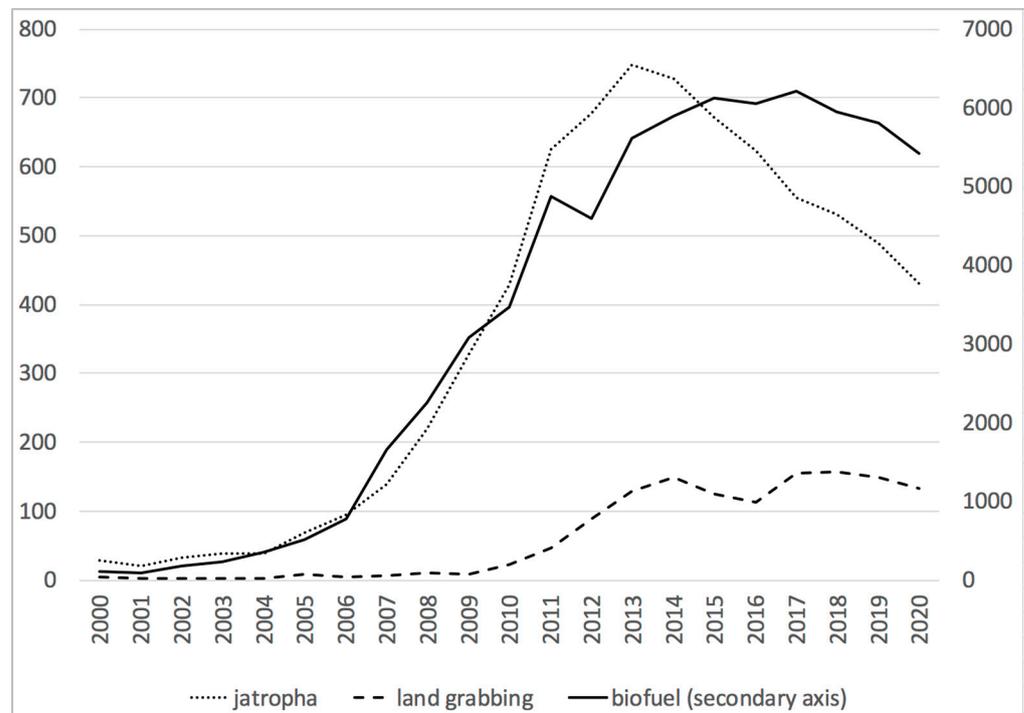


Figure 1. Number of academic articles published on iatropa, land grabbing and biofuels between 2000 and 2020, source: author, data from a Web of Science search carried out on 25 February 2021.

2.1. The Land Grabbing Discourse

Land grabbing became a hyped topic in the early 2000s. The trigger of the global land grab phenomenon is commonly seen in the 2007-08 global climate, food, and financial crises [5,6,30] which galvanized a series of fears around food and energy shortages and prices, environmental degradation, conflict, and climate change. Responding to these fears with a common narrative of scarcity seemed to justify land investments [30]. Since the first mentions of ‘land grabbing’ in the early 2000s, there has been a rush to publish on the phenomenon. Hundreds of academic articles, reports, and media headlines have been produced since then, making this rush for farmland a twofold one: the rush for land itself, followed by a hype in discussing it [2,3,6]. This discourse rapidly elevated land grabbing to an issue of world political significance. As it combines important areas of development, investment, and food security, among others, and stretches beyond the local or regional level, land grabbing is now a well-established topic in global governance and on the agenda of the Group of Eight (G8), the Group of Twenty (G20), the World Bank, and of global civil society organisations and transnational social movements [31].

The “trigger phase” of the global land grabbing hype has been labelled by Edelman [32] as the so-called making sense period in land grabbing research, which was characterized by a rush for empirical evidence, or as Zoomers et al. [3] (p. 148) call it, a “rush for data”. This phase was all about quantification, about ‘finding out fast’ [33] and ‘grabbing headlines’ [32], often ‘recycling’ unproven facts in a “willingness to report as much as possible as quickly as possible” [33] (p. 506). This phase in land grabbing research saw a split of discourse into two main camps, which is also reflected in the language used by actors in each of these camps to describe the phenomenon. As early reports evoked concerns over real and massive experiences of dispossession, displacement, violence, social exclusion, undermined local food security/sovereignty, and deforestation, activists, social movements, NGOs, and critical scholars refer to the phenomenon as ‘land grabbing’ [2],

a term which is, in itself highly politicized and has the connotation of something illegal or theft. The severity of land grabbing's (assumed and real) impacts has made the topic prominent, not only in academia but also politically and publicly. However, Sändig [4] suggests that the prominence of land grabbing can also be attributed to its powerful framing. From the beginning, activists and critics have condemned land grabbing using common rhetoric elements and long-established frames that are highly familiar to audiences in both the Global North and South. Portraying land grabbing as (1) an injustice, as (2) a consequence of neoliberal policies and even capitalism in general, and as (3) a new form of colonialism created a powerful and emotional story around the phenomenon and made it easy to sympathize with those on the weak side [4].

On the other side of the discursive spectrum are prominent multilateral development agencies, international institutions, and (less critical) scholars that use terms such as 'large-scale land investment' instead, highlighting the prospect of a much-needed renewed interest in agricultural investments that could bring finance for 'underdeveloped' countries and regions [6,34-35]. It is noteworthy, however, that "most case studies focus on criticizing the negative impacts to refute the line of thinking that purports land deals function as purely beneficial processes that deliver crucial developmental opportunities to the global poor" [2] (p. 13). The voices of discourse that highlight (potential) negative effects of the phenomenon, therefore, seem to have been heard more. Regarding the scholarly examination of the topic, this is probably also due to the fact that academic and activist engagement with the topic has sometimes become mingled. One journal (*The Journal of Peasant Studies*), for example, has published many (94) of the 1330 academic articles published on the topic between 2000 and 2020. The editor of the journal, Saturnino M. Borrás Jr., is also the author with most publications on the topic and one of the founding members of the international peasant and farmer's movement *La Via Campesina*, which has been one of the earliest and strongest critics of the land grabbing phenomenon [36-37].

Following the peak of attention to the global land grab phenomenon, the discourse matured during the so-called 'post-making sense period' [32], exposing a more complex reality of the topic and calling for research that goes 'beyond the hype' [6]. Whereas reports and studies produced in the 'making-sense period' were often biased towards (1) deals made by foreign (and corporate) investors, (2) deals made in Africa, (3) deals where China was involved, (4) deals made for food and fuel, and (5) larger deals [33], the 'post making sense-period' is characterized by a general acknowledgment that state actors and ruling elites also play an important role in land grabbing processes [16], and that the emphasis on land grabbing in Africa or the Global South in general [38] and for food and fuel is not correct [6]. This phase also challenges the earlier assumption that 'local communities' are inevitably negatively affected by land deals [2] and tries to get more clarity on the scale of the phenomenon [38] as well as methodological issues in studying it [33]. De L.T. Oliveira et al. [6] (p. 2) identify a continuing third phase from 2015 onwards that consists of "empirically-rich research [...] that answers [the] call for better methodology and more nuanced theorization", revealing, for example, why land deals fail [39], the crucial role of financial capital from the Global North [40-41], political reactions 'from below' [42], and the rise of flex crops and commodities [10]. In addition, in their most recent review of scholarly examination of land grabbing, Yang and He [2] highlighted the need to develop a "many-voiced story" of the phenomenon which includes the discussion of a wide spectrum of potential outcomes and which has a more nuanced view, including of the investors' side.

2.2. *The Biofuel Discourse*

The "biofuel boom" [7] (p. 791) took off around a decade before the land grabbing hype (see Figure 1). While initially, the excitement around biofuels focused on finding a clean and secure alternative to fossil fuels, multiple other expectations were attached to

them over time: to mitigate climate change, foster domestic energy security, generate employment, create opportunities for smallholder farmers, and reduce poverty. Similar to the land grabbing discourse, the discourse around biofuels encompasses a diversity of actors that do not only try to get a deep understanding and definition of what the problem actually is, but also suggest and promote possible solutions, each of them employing a particular frame or narrative to the discussion [25]. In the case of the land grabbing discourse, one major motivation has been to mitigate the phenomenon's (assumed and actual) negative consequences in the 'real world' and define a set of standards that need to be complied with, for investors to gain "a social license to operate" [43] (p. 1). This has been partially successful, for example through the adoption of voluntary guidelines and principles for responsible land investment and governance [44].

The discourse around biofuels has so far been much more powerful in influencing policies and in creating material consequences. The visions, rather than facts, of what biofuels could do were used to push them forward as a new 'development' initiative, influencing policies and investor decisions [45]. In a large number of countries in the Global North and South "demand for biofuels has been legislated into existence in extremely large volumes" [28] (p. 830) and as a result, global production of and trade with biofuels and their feedstocks has expanded rapidly. Specifically, when looking at biofuels' role in climate change mitigation, one narrative expressed was that their largest potential would only be realizable through large-scale energy plantations in areas with a favourable climate for maximising the production of biomass [46].

It is at this point that the land grabbing and biofuel discourses intersect. Although available data should be handled with care [33], Anseeuw et al. [14] reported that intended use for biofuel crops accounted for 37.2% of the land area acquired worldwide between 2001 and 2010, food crops accounted for 11.3%, and the rest was split between agro-industrial crops, forestry, mining and other land uses. Initially, and in order to avoid competition with food crops, biofuels were intended to be grown on so-called wastelands, idle, or marginal lands that cannot be used for the production of food crops and of which as much as 0.4–1.7 billion hectares were supposedly available globally [5] (p. 45). The idea of wasteland is powerful since it renders debate almost impossible, or as Ariza-Montobbio et al. [47] (p. 880) asked: "How can anyone disagree with the propositions that 'wasteland' should be regenerated, that producing agrofuel out of unproductive wasteland is a good thing?". Nevertheless, claims made around 'wasteland regeneration' have been examined more thoroughly and contested by several authors over the past decade. Problems highlighted include: (1) the blurriness or even 'manipulative' character of the term marginal/waste/idle lands itself and the various issues faced when trying to define it; (2) conflicts with or the expropriation/displacement of local populations for whom the land constitutes an important part of their livelihoods and is of social, cultural or environmental significance [47–51]; (3) and cases in which, despite much rhetoric about marginal lands, investors (are still allowed to) go for the more fertile lands [52].

In response to this narrative that clearly connects biofuel investments to land grabbing, policies in several countries have been altered to include guidelines for 'sustainable biofuels'. These would have less or no negative impact on, among others, food security or local ecologies and livelihoods [45]. This new and, again, much talked-about solution are so-called flex crops. These are crops that have multiple uses such as food, feed, fuel, or industrial material that can supposedly be easily and flexibly interchanged. Although it is not new or uncommon to use plants in multiple ways, the speed of expansion of crops such as corn, oil palm, soy or sugarcane as well as the drive to expand their uses in fundamentally new ways are remarkable. This emanates from the vision of a low-carbon future based on a green or so-called bio-economy in which nature or agriculture becomes "the oil well of the 21st century" [10] (p. 95). Beyond that but related to it, flex crops are tied to "agri-food system financialization, which subordinates use to exchange value" [53] (p. 117). Flex crops are, in that sense, more attractive to investors than other crops since they open up new markets for expanded production, and offer the possibility to switch

product lines through crop use change in favour of the use that can deliver the most profit, under a specific market condition [12,54].

Since flex crops mean different things to different actors, they are also referred to as “discursive commodities” [11], indicating that a complex and dynamic set of narratives exists around their promotion and legitimization. As with biofuels in general, hypes about wonder or boom crops raise critical questions about the optimistic narratives around their potential. Following the methods section, I examine the narratives around jatropha as a flex crop that have led to its world-wide promotion, and I subsequently position the land grabbing discourse within the boom and bust cycle of jatropha in India.

3. Materials and Methods

The study on which this paper is based uses a twofold research approach. Firstly, a discourse analysis of the hypes around land grabbing, biofuels, and jatropha has been carried out as a literature review, integrating mainly academic but also grey literature. This literature review covered both the general evolution and character of these hypes globally, as well as their specific formation in the Indian context. As part of this research, a database of the academic literature in English on jatropha was created, searching the Web of Science core collection for “jatropha” as a “topic”. Topic searches search for a given key word in title, abstract, author keywords, and Keywords Plus. The search on “jatropha” yielded 5548 articles (other publication formats were excluded from the list of results) on jatropha between 2000 and 2020. Out of these, 349 articles were identified as dealing with topics other than the agronomy of the plant, plant genetics, combustion properties of jatropha oil and others, but discussing, above all, claims about the plant’s potentials. These studies, for example, examine its socio-economic impact, review its adoption and failure in various countries, and a few of them also link jatropha to the land grabbing discourse [55–61]. The study of these 349 scientific publications was carried out in order to assess the origin, main arguments, and direction of the jatropha hype and to identify India’s position within it. In addition, the same Web of Science search was used as input data for the VOSviewer, which is an open-source software to analyze bibliometric networks [62]. The information output created by the VOSviewer helped identify the most influential papers and authors in the jatropha discourse.

The discourse and literature analysis were accompanied by qualitative research in India that comprised two parts. Part one was qualitative data collection on a higher level to find out how much, where, and by whom jatropha had actually been grown in India. Although the crop had been promoted on such large scale and high level in India, no official statistics on it exist to date. It was thus a necessary first step to identify actual investors in jatropha in India, besides those that were mentioned in early versions of the Land Matrix [22] and the GEXSI report [63]. To do so, firstly, some 82 scientific papers published between 2000 and 2020 on Jatropha in India were analyzed for investor information. These were part of the 349 academic articles on jatropha worldwide mentioned above. This was supplemented by a review of grey literature on jatropha investments in India, most of them newspaper articles. Secondly, state departments in all 29 Indian states (not union territories) were approached first by e-mail and phone to gain insights into regional jatropha developments, their drivers, and their current status. This step addressed the state departments of agriculture, state departments of (panchayats and) rural development, state (alternative) energy development agencies, state departments of (environment and) forests, state biofuel development authorities, state departments for land/land reforms, and state departments of biotechnology. Out of 150 people contacted in this step, replies were received from 45. In addition to state governments, 30 representatives of NGOs, research institutions, and associations around biodiesel and jatropha in India were approached in the same manner out of which 30 recipients replied. Lastly, 25 international experts that had published research related to jatropha in India were contacted to inquire about details of their reported projects or case studies, as well as the background on investors mentioned in their publications. This research approach yielded

information on a total of 88 companies that had plans to invest in jatropha in India or had actually invested in jatropha projects in India over the past two decades. The aim of part two of the qualitative research was to interview these companies concerning the company history, background, and intention of the jatropha investment, the actual nature and history of the investment, as well as the effects of the land grabbing and jatropha hypes on investments. Although a larger number of these companies were already out of business at the time of inquiry, a total of 25 individuals were able to give a status update on past and current jatropha activities of the company. Interviews with these companies were conducted in 2016, 2017, 2019, and 2020 and lasted on average one hour. They were recorded and transcribed before qualitative content analysis was carried out.

4. Results

4.1. The Global Jatropha Hype and Land Grabbing

Jatropha emerged as a hyped biofuel crop from 2000 onwards. Between 2000 and 2020, 5548 academic articles were published on the plant, some of which have been highly cited. In much of this literature, jatropha was heralded as a “magical biodiesel plant” [64] (p. 855) and as “resource of dreams” [12] that was “in a league of its own among miracle crops” [65]. Jatropha, it was claimed: (1) had a high oil yield even under marginal conditions, (2) was not prone to many common pests and diseases, (3) was drought-tolerant and did not require a lot of inputs, (4) could reclaim wastelands, (5) while also being suitable for soil erosion control and prevention, and (6) its seed cake could be used as organic fertilizer and as a high-quality livestock feed [66]. These alleged properties of jatropha did not only make it the perfect new biofuel crop, but it was also labeled as being ‘pro poor’ and ‘pro smallholder’, and hence a new ‘miracle crop’ had been found [67–68]. The “discursive web” [12] woven around jatropha was very successful in creating a reputation that helped jatropha projects multiply quickly throughout the global South (see Figure 2).

One of the first papers published early on in this new wave of interest in jatropha was one by Openshaw [69], who was at the time associated with the Food and Agriculture Organization of the United Nations (FAO). This paper was the most cited publication on jatropha with more than 800 citations to date. It is in this paper that most of the claims about jatropha’s potential as a (sustainable) bioenergy crop were being made, most of them without any reference to supporting data. The same applies to another highly cited paper (close to 300 citations to date) by Francis, Edinger and Becker [70]. While the authors stated that jatropha at the time was still a wild plant and that “reliable scientific data on its agronomy are currently lacking” [70] (p. 19) they made the same claims about its potentials. The so-called “Global Market Study on Jatropha” published by Global Exchange for Social Investment (GEXSI) in 2008 also reiterated those claims, using no supporting references, while at the same time predicting enormous growth and future investment as well as strong political support for jatropha worldwide. The study was commissioned by the World Wide Fund for Nature (WWF) in 2008, “sponsored by BP in support of the efforts of the Roundtable on Sustainable Biofuels” [63]. This document, although exact citation numbers are unavailable as it does not appear in the Web of Science or Scopus search, is being widely cited in scientific papers regarding the area that has been or will be planted under jatropha: close to 1 million hectares at the time of report writing, 5 million hectares in 2010 and 13 million hectares in 2015 [63] (p. 21). Data presented in the report are based on interviews with 176 experts and project representatives from 242 identified jatropha projects in 55 countries, which were conducted in February and March 2008 and complemented by desk research. One might assume that the short period of time within which the study was compiled did not allow for actual validation of data. It also doesn’t become clear who the experts interviewed were. Interestingly, the main author of the study and founder of GEXSI, a social entrepreneur, stated in an interview that he only “stumbled upon jatropha by accident”:

“I work on social finance. We came across the jatropha topic by chance and were lucky enough to get such an assignment from the WWF. [...] We had not been familiar with this topic before so

we used this assignment to familiarize ourselves with jatropha and it was exciting for us to see that there was such demand for it.” (interview with GEXSI in 2020, author’s own translation).

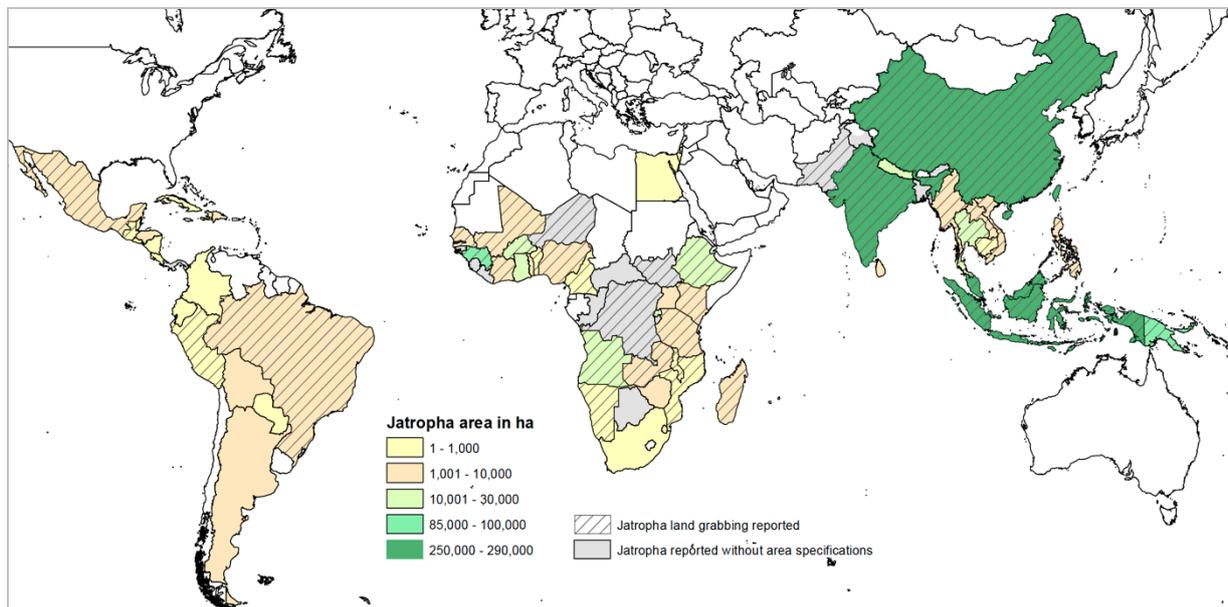


Figure 2. Global jatropha area estimates, source: author, area estimates from BioZio [71], Castro Gonzáles [72], GEXSI [63], GRAIN [73], van Eijck et al. [74], Wahl et al. [75], and Walmsley et al. [68]; cases of land grabbing as reported by The Land Matrix [22], (data of 2017).

The trigger phase of the global jatropha hype went quite in parallel with the emergence of the global biofuel discourse (see Figure 1). While underlying factors are the same, the above mentioned and many other publications on jatropha’s potentials fueled the hype, as well as “the development narratives disseminated by individual actors” [76]. Such individual actors were often government officials that transported these hypes into policy-making [76] (p. 3781), accompanied by strong interest from the private sector [77].

“Back then, as a company, we considered where the megatrends were and renewable energy was such a mega trend. Then of course, as a company, you go for such a project. With Jatropha we said, if it works at all, it works with this plant.” (interview with TNC A in March 2020, author’s own translation).

The trough of disillusionment in the jatropha hype cycle was reached quite fast and at the speed at which it had been built up, the hype around the plant collapsed. In total, it took only ten years for jatropha to progress from being a wonder plant to having a thoroughly bad name with investors. Nielsen et al. [77] identify the year 2008 as when public opinion turned 180 degrees from initial wide support to almost universal antagonism. One reason often quoted is that oil prices dropped at that time, undermining the profitability of jatropha. But generally, the “extraordinary collapse” [78] of jatropha is attributed to the fact that it failed to meet expectations [79]. Yet not only did it fail to meet expectations, the expectations themselves were inflated and unrealistic from the start. So, a similarly sensational language that had heralded the miracle crop only ten years before, also accompanied its falling from grace [45]. Again, this disillusionment is part of a hype cycle, when early on, excessive attention is given to a subject involving extravagant claims that can be deliberately misleading or deceiving. Hype then implies the possibility of disappointment [76]. However, the way in which the disappointment with jatropha spread did not actually leave much room for opposing, that is, positive narratives or experiences with this “crucified plant” [64].

4.2. The *Jatropha* Hype in India and the Global Land Grabbing Discourse

Indian policy makers picked up the positive narrative around *jatropha* when implementing the country's National Mission on Biodiesel in 2003 and its biofuel policy in 2009. The implementation of such policy in India happened within the above-mentioned biofuel hype that supported renewable energy use around the globe, specifically in the transportation sector, which is responsible for the second largest share (23%) of global carbon dioxide emissions [80]. One of the main goals behind India's biofuel policy was to reduce the country's dependence on energy imports. India covers 26% of its total primary energy consumption from crude oil, of which around 80% is imported. Diesel remains the most-consumed oil product in India, accounting for 39% of petroleum product consumption in 2019, and is used primarily for commercial transportation [81]. A second motivation behind the adoption of India's biofuel policy was to reduce carbon dioxide emissions [20]. Although, with 1.8 metric tons, the per-capita emissions are way below the world average of 4.5 metric tons in India, the country currently accounts for 7% of such emissions worldwide, which is rank three globally [82].

India's biofuel policy of 2009 proposed non-binding blending targets of 20% each for gasoline (bioethanol) and diesel to be achieved by 2017 [83]. *Jatropha* was selected as the preferred source for biodiesel production, despite the fact that, at the time, it was still an under-researched plant. Similar to cases reported from Indonesia [76] and Mexico [84-85], this hype around *jatropha* in India can be traced back to one high-profile individual who "was the main driving force behind *jatropha* in the whole of India" (interview with the Jammu and Kashmir Energy Development Agency in September 2016) and spread his enthusiasm for the crop in government circles: APJ Abdul Kalam, President of India from 2002 to 2007. Kalam even used his presidential address in 2005 to praise the positive properties of the shrub, planted it on the presidential estate, met with farmers to encourage them to go for the crop and was seen riding a *jatropha* oil-fueled vehicle [86-87].

"It just kind of caught the imagination of people. Suddenly, everybody talked about jatropha, the Europeans and then in India, our President said jatropha would be a good crop. And then it became something like an idea or illusion [...] and everybody dived into it without really researching the material. It was essentially the government which promoted this entire exercise and then everybody was leaning into it." (interview with Indian SME A in April 2020).

The Indian government employed a very narrow and excluding narrative, or "seductive discourse" [20] (p. 21) when promoting biofuels, lacking communicative rationality and submerging any opposing views. In the specific case of *jatropha*, policies were implemented relying "too heavily on the opinion of one of its top functionaries" [78] (p. 7115) to satisfy the interests of more powerful actors (such as state and corporate), cherry-picking evidence from a diverse body of uncertain knowledge about the plant [88].

These discursive practices of biofuel promotion were soon met by an emerging anti-biofuel discourse in India with one of its main arguments relating to land. Given the estimates on *jatropha*'s average yield and oil content available at the time, the biodiesel blending targets set in the Indian biofuel policy could only be achieved through 14-17 million hectares of *jatropha* plantations, equivalent to 4-5% of India's total land area [20,89]. In India, almost two thirds of the available land are already under cultivation and the country is home to the greatest number of undernourished people in the world [90]. It was thus paramount to avoid food versus fuel conflicts. Therefore, the Indian Government intended to make these enormous amounts of land available through the conversion of so-called government wastelands. The general perspective in wasteland classification in India can be traced back to the country's colonial past when all land, which underperformed with regard to revenue generation (taxes), was classified as wasteland. The large-scale conversion of government wasteland into *jatropha* cultivation was seen as a means to increase the economic value of these lands. According to various classifications, between 38-55 million hectares of wasteland were supposedly available nationwide [20,47,83]. Critics challenged the government's wastelands narrative, highlighting that such 'empty lands' did not actually exist [47,91-92].

It seems, however, that the mere mentioning of these enormous figures called the attention of activists and researchers and secured not only India's top spot on the global jatropha cultivation map, but also put the country's name on top of the list of the world's largest land grabbers. In 2012, the Land Matrix presented India as the third-largest investor in land grabbing processes worldwide, with 4.4 million hectares being subject to domestic land grabbing [22], (data of 2012).. While 33% of the affected areas were supposedly being used for industrial or infrastructural projects, the remaining 67% were reported as being intended for agricultural production. For a total of 3 million hectares, the database registered the Indian government as the land grabber with the intended use being the cultivation of jatropha. In the same year this database presented jatropha as the cause behind 11 million hectares³ of land affected by land grabbing processes globally, second only after oil palm, with 37% of the investments being domestic. Jatropha land deals thus supposedly accounted for 18% of the land deals (by land area) registered in the database at the time [22] (data from 2012).

It is at this point that the jatropha hype and the land grabbing hype intersected. While, around 10 years later, jatropha has almost entirely disappeared from the Land Matrix as a crop that triggers land grabbing processes, the database drew a very different picture early on, a point that has been raised by its critics who highlighted problems when using the database as a source of examples for case-study research, describing it as being inaccurate and easily leading to misleading conclusions [16,32,93–94]. The main reasons for the failure and global disappointment with jatropha are mentioned above and with that, its disappearing from land grabbing statistics can also be explained. The various shortcomings of the Indian biofuel policy and its implementation are also well documented [46,95–99]. Besides the lack of marketing structures and limited economic returns for farmers, land constraints have been identified as major challenges. One aspect that has not yet received attention is the question whether the land grabbing discourse itself contributed in any way to the failure of jatropha in India.

4.3. Jatropha Investors in India

This research identified a total of 55 companies that engaged in jatropha projects in India. Out of these, five were transnational corporations (TNCs), eight were international SMEs⁴ and 42 were Indian corporations (see Table 1). Twelve of these companies were listed in the Land Matrix as being involved in land grabbing processes, the majority (67%) of them being domestic investors [22] (data of 2012). For each type of company, different dynamics regarding their engagement with jatropha existed, and the effect of the broader land grabbing discourse on their operations varied. The engagement of large TNCs with jatropha as a biofuel crop reflected the global hype that had emerged around biofuel investments at the time. Critics of the Indian biofuel policy suggest that, although jatropha was discursively linked to 'pro-poor development' and national energy security, these arguments merely served as "window-dressing" [47] (p. 891) or a "smokescreen" [100] (p. 8) and deep involvement of multi-national companies in the sector was openly promoted, facilitating "corporate presence and control" [100] (p. 8) in India's biofuel sector.

This research puts such claims in perspective as, in fact, the minority of jatropha investors in India were TNCs or MNCs and not a single one of them ran successful jatropha operations in India at the time of research. Four out of five of these companies abandoned their jatropha ventures in India after a couple of years and the fifth company has been shut down. There seems to be a group of companies that used the hype around the crop to raise funds from investors without any sincere intention of actually ever producing jatropha oil, or without being transparent about the problems they were facing in their jatropha projects.

"At that time, Chrysler⁵ offered workshops on jatropha which were attended by various actors who had come across this topic. The 'big bang', however, was when D1Oils⁶ somehow raised fifty million pounds at the London stock exchange out of nowhere. This created a media hype." (interview with GEXSI in April 2020, author's own translation).

Table 1. Companies that had jatropha projects in India between 2000 and 2015 (company names in bold font indicate that this company was listed in the Land Matrix as being involved in land grabbing processes); source: author’s survey and Land Matrix [22], (data of 2012).

Inter-/Transnational Corporations (5)	Indian Corporations (42)	
	Larger Companies (8)	SMEs (34)
ADM	Bharat Petroleum	
Bayer CropScience	Bannari Amman Group	Adi Biotech, Armaco, Bharat Renewable Energy Ltd. (BREL), Bulk Agro India, CleanStar Energy, Cosmos Green, D1 Mohan Bio Oils, D1 Williamson Magor, Dharani Sugars, Dr. MGR Jatropower Bio-trading, Labland Biodiesel, Mission Biofuels India, Mohan Breweries, Nandan Biomatrix , Naturol Bioenergy, Noble Horticulture Farm, Pandlan Estates, Purandhar Agro and Biofuels, Renulkashmi Agro-Industries, Riverway Agro Products, Shirke Energy, Shiva Distilleries, Society for Rural Initiatives for Promotion of Herbals, Southern Biofe Biofuels, Southern Online Biotechnologies, T. Shivaleeka Biotech , Tree Oils India, Upkar Biodiesel, V. Bakthavatchalam, Vatic International Business
Daimler	Hindustan Petroleum	
D1 Oils	Hazel Mercantile	
GM	Indian Oil	
	Reliance	
International SMEs (8)	Shapoorji Pallonji	
Agriom		
Energea		
FE Global Clean Energy		
JatroPower	Williamson Magor	
JatroSolutions		
JOil		
Mission NewEnergy		
SGB Biofuels		

“Especially India, India was complete nonsense and a sham, as they lied to the investors. Not that they were stealing money or anything, they were not, but they were lying about the results. And the accounting companies were supporting that lie [...]. When I came on board, I went to India and I discovered that it was a complete lie how much jatropha they had planted. There was nothing. Effectively nothing. It was all a big lie.” (interview with the last CEO of TNC B in November 2017).

Other TNCs such as Daimler, Bayer CropScience and ADM tapped into the jatropha hype since “everyone else was doing it” and they did not want to miss out on a mega trend (interview with TNC A in March 2020). As one of these companies explained regarding their engagement in a jatropha project in India, problems with the actual potential of jatropha as a biofuel crop as well as land availability led to the abandonment of the project. In addition, the land grabbing tag that had been attached to many biofuel projects at the time also played a role:

„That’s the power of the media. When international companies like Daimler or Bayer address such questions [biofuels], the world immediately jumps to conclusions. [...] As a company, we have always had concerns that we would get in the line of fire if we used arable land suitable for food production for renewables”. (interview with TNC A in March 2020, author’s own translation).

“At some point public opinion swung from ‘wow, biodiesel is the chance to get away from oil’ to ‘aren’t there land use conflicts?’. And jatropha was then lumped into the same pot as all the palm oil projects” (interview with GEXSI in April 2020, author’s own translation).

The same holds true for SMEs that engaged in jatropha in India. While the early land grabbing discourse had a focus on large investors, the Land Matrix listed many smaller companies as land grabbers for jatropha investments in India. The main difference between these two groups of companies is that the TNCs had project-like and experimental jatropha ventures as an attempt to ‘green’ their portfolio, or, as said above, since everyone else was doing it at the time.

The foreign SMEs that were active in jatropha were all (with the exception of one) companies that were specifically founded in the early 2000s with biofuel or jatropha as their core business: German JatroSolutions (2005), Australian Mission New Energy (2005), Austrian Energea (2006), Swiss JatroPower (2007), US-American FE Global Clean Energy (2007) and SGB Biofuels (2007) and Singaporian Joil (2008). It is out of this group that the

most successful or long-term jatropha projects have developed. Out of the 55 companies identified, only five have ongoing jatropha projects in India (see Figure 3), and four of them are from the group of international SMEs (see Table 1). While three of them have abandoned their jatropha ventures in India, one company said it was accused wrongly of being involved in (land grabbing-related) jatropha investments in India:

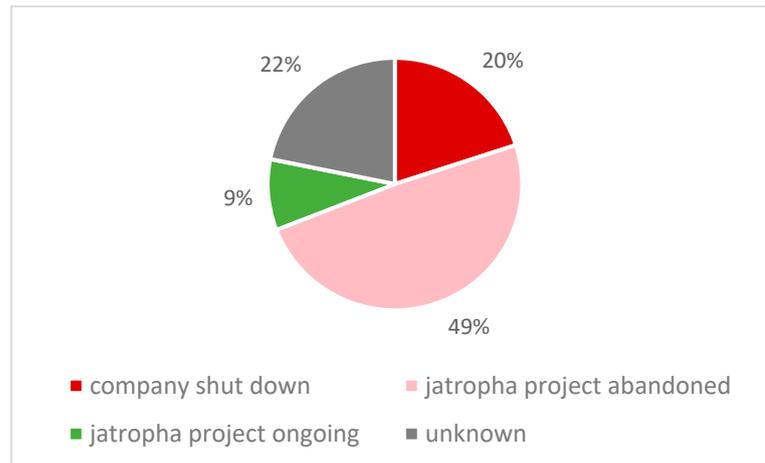


Figure 3. Companies that had jatropha projects in India by status in 2020; source: author survey.

“Several misunderstandings and half-truths came together in the case of jatropha. Claims made by Indian politicians that this miracle plant would bring income to the poorest on ‘marginal land’ were just idle talk. [...] I attended so-called ‘international’ biofuel conferences (international because there were one or two foreign guests, sometimes just me) in India myself from 2003 onwards and saw it ‘live’. We never planned to invest. If that is written somewhere, then someone has made it up.” (interview with international SME A in April 2020, author’s own translation).

In addition to the disappointing experiences with jatropha as a biofuel plant itself, issues arose around land. While initially, the ambitious jatropha plans by the Indian government created interest among international investors and led to the assumption that *“in India, apparently, there is a lot of state land that is useless, that could be rededicated with agreements with the government”* (interview with TNC A in March 2020, author’s own translation), investors that were actually attracted soon realized that this was not the case.

“All companies that were active in jatropha went to African countries, where it is easier to get land from the government. The stories about big jatropha developments and land grabbing for jatropha in India were rumors.” (interview with international SME B in November 2016).

Nevertheless, the narrative that had already emerged about jatropha promotion and related land grabbing not only affected these companies’ current operations in India but their general and future business as well. Swiss JatroPower and German JatroSolutions, both breeding companies whose core business is the development of improved jatropha cultivars, operate in India using it as one of several global testing sites for newly developed jatropha varieties. Due to the fact that these test plots are rather small in size, such ventures were not classified as potentially at risk of land grabbing processes. Nevertheless, *“the hype hurt jatropha and the land grabbing discourse scared off investors. We mainly do research, but now we market jatropha under the name Chuta, in order to avoid negative associations people might have with the plant”* (interview with international SME C in March 2020, author’s own translation).

The third and largest group (67%) of companies that invested in jatropha projects in India are Indian corporations. This group can be subdivided into larger companies or conglomerates (8) and SMEs (34, see Table 1). The three large government oil companies Bharat Petroleum, Hindustan Petroleum and Indian Oil are in the picture by default as they were supposed to be designated purchasers of any jatropha oil produced for blending.

Similar to the case of international investors, other larger Indian companies such as Reliance, Williamson Magor, or the Bannari Amman Group started engaging in biofuels in general and in jatropha specifically due to the fact that their portfolio was related to chemicals or refinery products, or as a reaction to the hype that was created around the crop. Similar to their international equivalents, they tried out jatropha for a couple of years before finally abandoning it due to viability reasons.

“Our company had an interest to venture into jatropha to diversify its business and make money. We saw jatropha as a potential candidate for planned corporate farming in and outside India. We did some trials but it was assessed as not profitable. We found out that there were more misconceptions associated with the plant than factual knowledge.” (interview with large Indian company A, that was also listed in the Land Matrix, in March 2020).

Finally, the largest group of jatropha investors in India was the sub-group of SMEs within the group of Indian companies. This research identified a total of 34 companies that ventured into jatropha between the early 2000s and 2011. Some of these were Indian subsidiaries of international SMEs and some were joint ventures between TNCs or large Indian companies and local partners such as small companies and NGOs. A few joint ventures were also established between government agencies, research institutions and third parties to raise jatropha plantations and that way “national planners’ enthusiasm for the species rubbed off easily on research organizations and universities that rely heavily on the Planning Commission for funding” [78] (p. 7115). Of the remaining 27 Indian SMEs, 15 were established from 2002 onwards. They represent the majority (52%) of companies that were founded around the jatropha hype in India. Of the total of 55 companies identified, 29 or 53% were founded between 2002 and 2011 (see Figure 4).

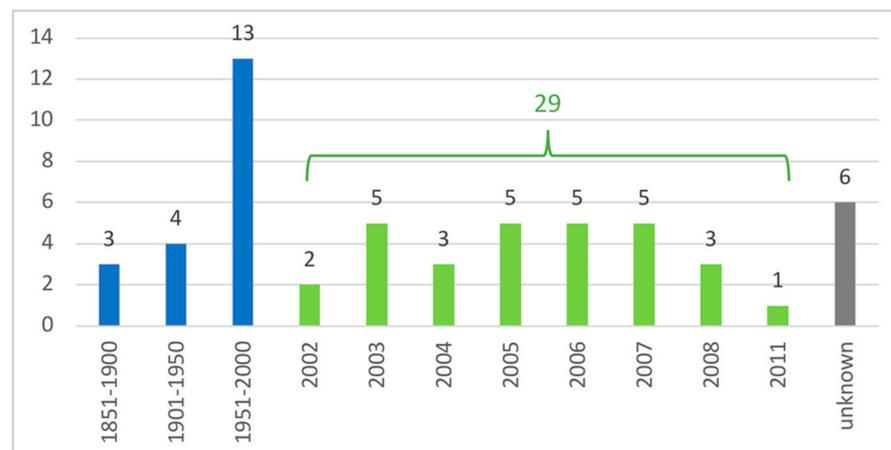


Figure 4. Companies that had jatropha projects in India by year of foundation (information on six companies was not available as they were already out of business at the time of research with no company record available); source: author survey.

Many of these business formations resulted out of private initiatives by former or retired employees of larger companies in the sector or of government institutions. Some of them were university spin-outs and many of them were socially motivated to tap into resources that were made available through the jatropha boom in the form of subsidies or free land preparation for small farmers.

“Our jatropha venture was a private initiative. I had attended a seminar by private people. These people made a business out of giving information on jatropha. I tried to plant jatropha on 20,000–40,000 acres⁷ of tribal land in Andhra Pradesh with a local NGO. I engaged over seven to eight months then finally found out that the government, who had given the land to the farmers, did not allow them to enter into any agreement with a third party.” (interview with Indian SME B in March 2020, operational 2011–2019).

It seems with land already being a very sensitive issue and with the government strategies related to making land for jatropha available were not clear, many companies

ran into difficulties when trying to upscale their jatropha ventures beyond trial plots. The founder of an Indian SME that was also listed in the Land Matrix as being involved in land grabbing processes explained that:

“In India the main priority is the farmer, agriculture. Nobody would like to touch that particular subject as it is very, very sensitive. We were very clear right from the beginning that we will not get into this kind of a model where you talk to the farmers and make them grow and then, you know, it becomes very, very problematic.” (interview with Indian SME C in April 2020, operational 2012-today).

Even if companies succeeded to get access to land, in which, apparently, direct relations with government officials played a major facilitating role, jatropha projects were still facing challenges:

“At the time, our current prime minister, Narendra Modi, was the chief minister of Gujarat. He has given us about 4,000 hectares to grow jatropha in Patan district, on lease. For three years the government did not charge anything and then they would charge a minimum 100 or 200 dollars per year. [...] On paper the model looks good, but then, getting it done under rural conditions, obviously there were a lot of challenges. You need a lot of funds to implement the project, bulldozers, cultivation, employment, et cetera. So somehow we could not scale that project up since there was no financial institution supporting it.” (interview with the CEO and founder of Indian SME D in 2019, who was also a committee member in the Ministry of New and Renewable Energy from 2008-2012).

The same concerns related to land were shared by TNC A which stressed that *“it was important that we would not have to bring forward a return on land or pay compensation to land-owners. In that project, it was clear from the start that the more additional costs arise, the more it is doomed to fail”* (interview with TNC A in March 2020, author’s own translation). Another international SME highlighted that even when getting land for free, it was often in such a state that it needed a lot of preparatory work and that not all investors were ready or capable of investing such resources:

“Today who is investing in agriculture? Nobody. The marginal farmers, since they have nothing else to do, they are doing that. Otherwise, who is actually investing into it? Nobody. The land hype does not make sense at all. At least if you were to buy land in India. The cheapest agricultural land that you may get would be, say, 50,000 INR an acre. It will be dry land. There will be no irrigation, nothing, so you will have to grow dry land crops. Just imagine how you are going to earn!” (interview with Indian SME D in April 2020).

In sum, land availability and the performance of jatropha were the major issues during India’s jatropha boom. With regard to the first and second research question (what effect the land grabbing discourse had on jatropha investments in India, and if and to what extent it contributed to the failure of jatropha in India), land grabbing-related narratives within the jatropha hype were not much perceived by Indian investors, international investors were more aware of and affected by them. While larger investors, who had tried out jatropha on a smaller scale abandoned such projects after only a few years, many of the start-up companies in the Indian biofuel/jatropha sector had to close down their operations due to the difficulties they were facing (see Figure 3). Out of the 29 companies established between 2002 and 2011 (see Figure 4), 9 had been shut down at the time of research and twelve had abandoned jatropha as their core business. This answers the third research question that asked whether the failure of jatropha was rather the result of a badly planned and executed policy that was based on a hyped debate around an under-researched plant. While the global jatropha hype attracted investors and strongly influenced India’s initial biofuel policy, the fact that it was based on an under-researched plant that, in the end, did not perform as expected, quickly led to the dwindling of excitement around the plant and an abandonment of jatropha projects. A more general turning away from the biofuel sector by the government also had negative consequences on investments already made and companies already set up, especially Indian SMEs:

“The unfortunate thing is that they [the government] abandoned the entire biofuel industry. That was a stupid thing to do. Instead of saying ‘ok, this is not the species, we should look for better

species'. But they abandoned the whole thing." (interview with Indian SME E in April 2020, operational 2006-2012).

The projects that are ongoing are by international SMEs for which India represents only one of many growing locations globally, and some are non-profit projects of small Indian companies that do not abandon jatropha for personal reasons.

5. Discussion and Conclusion

This research examined the jatropha hype and the effect of the global land grabbing discourse on jatropha investments in India. The jatropha hype emerged around the same time as the hype around global land grabbing and for both discourses, India happened to become a main stage. As stated in the theoretical section when introducing the framework around hyped discourse, the term hype itself is not used in a derogatory way in this study. Rather, the importance of the global land grabbing discourse in revealing negative consequences of this (new) phenomenon is being acknowledged. With reference to the results presented in this study, it also needs to be stressed that engagement of Indian corporations and state institutions with jatropha has, in some places, led to the displacement of local populations and loss of land and therefore, in these cases, claims about land grabbing are correct [101]. Some companies in the list of investors also seemed to have engaged in jatropha for somewhat dubious reasons, such as an IT company and a real estate company. Unfortunately, these companies were not available for interviews for this study. It needs to be taken into account, however, that not all corporate engagements with jatropha are covered in this study and that firms might have emerged and acted under the cover of jatropha investment with real intentions being elsewhere, such as land grabbing or rent appropriation, as documented by Baka [49] and as also voiced by an Indian SME:

"In the past years, there has not been much interest in jatropha, mainly due to land issues. Added to this was the wrong players in the field who, with the intention of making quick income, spoiled jatropha-based projects. With the raising boom in the real estate business, obtaining land for cultivation was difficult. Spurious sellers and vested small and big stakeholders misused the opportunity for short-term gains in the name of jatropha and painted a dark picture on the viability of crop" (interview with Indian SME F in August 2016).

The main point of the study, however, was to examine, how the hyped discourse around land grabbing and its conjunction with the biofuel hype in general and later the jatropha hype in particular impacted investor decisions. This research therewith adds a yet underrepresented investor perspective to the global land grabbing discourse. It needs to be stressed, however, that this part of the study has, at the same time, devoted less attention other views such as those of policy-makers, local communities, or civic society. The Indian case is particularly interesting, as land grabbing had already become "integral to the [Indian] media and civil society lexicon" [19] (p. 43) long before the world started talking about it. In her study of the jatropha hype in Indonesia, Vel [11] warns against unintended effects of biofuel policies and discourses when they translate into a business opportunity for short-term private benefits instead of for the social and environmental goals for which the policies were originally intended. While the 'original intention' behind India's biofuel policy remains an issue of debate [88,102] there seems to be a continuing trend of discursively linking government policy with development. As Michael and Baumann [23] emphasize in their study of India within the global land grabbing discourse, and as also shown above, the Indian government has applied a strategy of exclusion of aspects and actors in the debate that oppose their own views and has strategically linked 'land acquisition' with 'development', depicting anyone who opposes the government's land acquisitions as also opposing 'development'.

This has become an essential discursive strategy as, from the early 2000s onwards, dispossession of land has become important as never before to the Indian economy [17,18]. In fact, there has been an acceleration of land dispossession since liberalization and the provisioning of government 'wasteland' for biofuel projects has been one of many developments in this larger context. According to Levien [18], the biggest difference compared

to dispossessions before independence is the new larger role of private investors and the establishment of Indian states as land brokers for private capital. This slowly but steadily shifting focus from pro-development to pro-investor (but discursively wrapped as pro-development) has, in turn, led to stronger anti-dispossession politics in India. Already in the 1980s there already was resistance against development projects involving dispossession, but starting from the early 2000s, there have been more widespread and successful ‘land-wars’ in India [103]. Land-related disputes are being used by political parties as electoral issue while the government claims that land issues are behind many stalled investments which have been found to be one of the causes for India’s recent economic slowdown (true or not) [23].

While the discursive strategy of ‘successful land acquisition’ being crucial for the ‘successful economic development’ of India as a whole is being contested, the global land grabbing discourse might have added some momentum to India’s land wars. The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act that replaced the colonial Land Acquisition Act of 1894 in 2013 seems to be taking existing criticism related to land issues in India into account by paying specific attention to the compensation, rehabilitation, and resettlement of affected communities. The Act requires at least 70 percent of the people whose land is being acquired to give consent [17]. It is, however, more the beginning of a new debate than the solution of a long existing problem. Some, who oppose it say that the new Act makes it easier for companies to acquire land since it provides a reliable legal framework for land buyers. Others say that it will make it impossible to get 10,000 hectares of land in a single tract in India [23].

This research has shown that land availability has been a major issue in jatropha investments in India. The different levels of embeddedness of investing companies have played a role as foreign investors were not fully aware of these issues previously, while Indian investors seem to have found a ‘way around’ such problems, often using direct personal contacts to government officials. The research has also shown that the broader land grabbing discourse and its linking to biofuel investment as well as the hype that was created around jatropha as a new miracle crop has affected investor decisions more on an international level and has been detrimental to a group of young (mostly Indian) start-up companies.

Experiences with jatropha, in India, however, were not all negative. In a few conversations with investors as well as government officials, a narrative emerged that portrayed the failure of jatropha being beneficial for farmers since “*the government gave these farmers use rights of former common lands and even when jatropha failed, families kept the land*” (interview with an Indian researcher and author on jatropha in May 2016). Similar statements were made by other interviewees who commented that farmers uprooted jatropha when they felt it was not delivering as promised. Positive examples with jatropha, not involving land grabbing processes, also exist, for example as a means of decentralized rural electrification [104]. It seems that such projects, if they succeeded locally, were not much talked about since the general narrative, at some point, turned against jatropha. This study, therefore, calls for a more careful and critical consideration of expected results and an openness to a diversity of narratives, or, as Yang and He [2] called it, a many-voiced story in the land grabbing discourse. It also highlights a need for similar studies on the impact the land grabbing discourse itself had on land-related investments, or the contribution of the hyped nature of the discourse to the failure of land-related investments, as well as more studies focusing on the role of small and medium enterprises in land grabbing processes.

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Conflicts of Interest: The author declares no conflicts of interest.

Notes

- ¹ The term feedstock is being used in this paper to refer to a source of input or raw material for biofuel production.
- ² Note that the term ‘underdeveloped’ in itself is contested. An alternative word to use would be ‘overexploited’. The ‘land grabbing as neo-colonialism’ narrative within the land grabbing discourse would argue that land grabbing is a new wave of ‘exploiting rich countries (with poor people)’ instead of putting it as ‘investing in poor countries’.
- ³ This area is the so-called “intended size” of the jatropha land deals registered by the Land Matrix in 2012. The contract size of the same list of land deals is 4.3 million hectares, the actual production size is 0.2 million hectares.
- ⁴ The term ‘international SME’ is used in this paper to differentiate small and medium companies with headquarters outside India from those enterprises of the same size but of Indian origin. Those are called ‘Indian SMEs’ here.
- ⁵ Automobile manufacturers such as Chrysler and some airplane manufacturers looked into jatropha as a potential bio/jet fuel at the time, and held workshops to find partners for pilot projects.
- ⁶ D1Oils was a leading, UK-based biofuel company that was set up in 2004 and formed a 50/50 joint venture with BP in 2007 to produce biodiesel from jatropha. BP withdrew from the JV in 2009 and in 2012 D1Oils was renamed into NEOS.
- ⁷ 1 acre is equivalent to 0.4 hectares.

References

1. Pedersen, R.H.; Buur, L. Beyond land grabbing. Old morals and new perspectives on contemporary investments. *Geoforum* **2016**, *72*, 77–81, <https://doi.org/10.1016/j.geoforum.2016.03.013>.
2. Yang, B.; He, J. Global Land Grabbing: A Critical Review of Case Studies across the World. *Land* **2021**, *10*, 324, <https://doi.org/10.3390/land10030324>.
3. Zoomers, A.; Gekker, A.; Schäfer, M.T. Between two hypes: Will “big data” help unravel blind spots in understanding the “global land rush?”. *Geoforum* **2016**, *69*, 147–159, <https://doi.org/10.1016/j.geoforum.2015.11.017>.
4. Sändig, J. Framing “land grabbing”: How the hype has been constructed. In *Resources and Conflict*; German Association for Peace and Conflict Studies (AFK): Kleve, Germany, 2019.
5. Borrás, S.M., Jr.; Franco, J.C. Global Land Grabbing and Trajectories of Agrarian Change: A Preliminary Analysis. *J. Agrar. Change* **2012**, *12*, 34–59, <https://doi.org/10.1111/j.1471-0366.2011.00339.x>.
6. Oliveira, G.d.L.T.; McKay, B.M.; Liu, J. Beyond land grabs: New insights on land struggles and global agrarian change. *Globalizations* **2020**, *18*, 1–18, <https://doi.org/10.1080/14747731.2020.1843842>.
7. Hunsberger, C.; German, L.; Goetz, A. “Unbundling” the biofuel promise: Querying the ability of liquid biofuels to deliver on socio-economic policy expectations. *Energy Policy* **2017**, *108*, 791–805, <https://doi.org/10.1016/j.enpol.2017.04.017>.
8. Robledo-Abad, C.; Althaus, H.J.; Berndes, G.; Bolwig, S.; Corbera, E.; Creutzig, F.; Garcia-Ulloa, J.; Geddes, A.; Gregg, J.S.; Haberl, H.; et al. Bioenergy production and sustainable development: Science base for policymaking remains limited. *GCB Bioenergy* **2017**, *9*, 541–556, <https://doi.org/10.1111/gcbb.12338>.
9. Saravanan, A.P.; Pugazhendhi, A.; Mathimani, T. A comprehensive assessment of biofuel policies in the BRICS nations: Implementation, blending target and gaps. *Fuel* **2020**, *272*, 117635, <https://doi.org/10.1016/j.fuel.2020.117635>.
10. Borrás, S.M., Jr.; Franco, J.C.; Isakson, S.R.; Levidow, L.; Vervest, P. The rise of flex crops and commodities: Implications for research. *J. Peasant. Stud.* **2015**, *43*, 93–115, <https://doi.org/10.1080/03066150.2015.1036417>.
11. Vel, J.A.C. Trading in Discursive Commodities: Biofuel Brokers’ Roles in Perpetuating the Jatropha Hype in Indonesia. *Sustainability* **2014**, *6*, 2802–2821, <https://doi.org/10.3390/su6052802>.
12. Hunsberger, C.; Alonso-Fradejas, A. The discursive flexibility of ‘flex crops’: Comparing oil palm and jatropha. *J. Peasant. Stud.* **2016**, *43*, 225–250, <https://doi.org/10.1080/03066150.2015.1052802>.
13. Lynch, M. Peak Oil. In *Companion to Environmental Studies*; Castree, N., Hulme, M., Proctor, J.D., Eds.; Routledge: Abingdon, UK, 2018; pp. 228–230.
14. Anseeuw, W.; Alden Wily, L.; Cotula, L.; Taylor, M. *Land Rights and the Rush for Land—Findings of the Global Commercial Pressures on Land Research Project*; The International Land Coalition (ILC): Rome, Italy, 2012.
15. Busscher, N.; Parra, C.; Vanclay, F. Environmental justice implications of land grabbing for industrial agriculture and forestry in Argentina. *J. Environ. Plan. Manag.* **2019**, *63*, 500–522, <https://doi.org/10.1080/09640568.2019.1595546>.
16. Wolford, W.; Borrás, S.M., Jr.; Hall, R.; Scoones, I.; White, B. Governing Global Land Deals: The Role of the State in the Rush for Land. *Dev. Change* **2013**, *44*, 189–210, <https://doi.org/10.1111/dech.12017>.
17. Jahnvi, K.L.; Satpathy, S. Unfolding the Enigma of Dispossession in India: An Analysis of the Discourse on Land Grabbing. *Sociol. Bull.* **2021**, *70*, 331–348, <https://doi.org/10.1177/00380229211018986>.
18. Levien, M. From Primitive Accumulation to Regimes of Dispossession—Six Theses on India’s Land Question. *Econ. Polit. Wkly.* **2015**, *50*, 146–157.
19. Sud, N. Governing India’s Land. *World Dev.* **2014**, *60*, 43–56, <https://doi.org/10.1016/j.worlddev.2014.03.015>.
20. Chaliganti, R.; Müller, U. Policy Discourses and Environmental Rationalities Underpinning India’s Biofuel Programme. *Environ. Policy Gov.* **2016**, *26*, 16–28, <https://doi.org/10.1002/eet.1697>.

21. De Hoop, E.; Arora, S. *Policy Democracy: Social and Material Participation in Biodiesel Policy-Making Processes in India*; SPRU Working Paper Series; University of Sussex: Sussex, UK, 2017; Volume 2017-02.
22. Land Matrix. Available online: <https://landmatrix.org> (accessed on 21 May 2021).
23. Michael, A.; Baumann, M.M. India and the dialectics of domestic and international “land grabbing”. *India Rev.* **2016**, *15*, 112–135, <https://doi.org/10.1080/14736489.2016.1129935>.
24. Explore the Cambridge Dictionary. Available online: <https://dictionary.cambridge.org> (accessed on 2 July 2021).
25. Hajer, M.; Versteeg, W. A decade of discourse analysis of environmental politics: Achievements, challenges, perspectives. *J. Environ. Policy Plan.* **2005**, *7*, 175–184, <https://doi.org/10.1080/15239080500339646>.
26. Gartner Hype Cycle Gartner. Available online: <https://www.gartner.com/en/research/methodologies/gartner-hype-cycle> (accessed on 2 July 2021).
27. Ijabadeniyi, A.; Vanclay, F. Socially-Tolerated Practices in Environmental and Social Impact Assessment Reporting: Discourses, Displacement, and Impoverishment. *Land* **2020**, *9*, 33, <https://doi.org/10.3390/land9020033>.
28. Bailis, R.; Baka, J. Constructing Sustainable Biofuels: Governance of the Emerging Biofuel Economy. *Ann. Assoc. Am. Geogr.* **2011**, *101*, 827–838, <https://doi.org/10.1080/00045608.2011.568867>.
29. Oliveira, G.d.L.T.; McKay, B.; Plank, C. How biofuel policies backfire: Misguided goals, inefficient mechanisms, and political-ecological blind spots. *Energy Policy* **2017**, *108*, 765–775, <https://doi.org/10.1016/j.enpol.2017.03.036>.
30. Scoones, I.; Smalley, R.; Hall, R.; Tsikata, D. Narratives of scarcity: Framing the global land rush. *Geoforum* **2019**, *101*, 231–241, <https://doi.org/10.1016/j.geoforum.2018.06.006>.
31. Margulis, M.E.; McKeon, N.; Borrás, S.M., Jr. Land Grabbing and Global Governance: Critical Perspectives. *Globalizations* **2013**, *10*, 1–23, <https://doi.org/10.1080/14747731.2013.764151>.
32. Edelman, M. Messy hectares: Questions about the epistemology of land grabbing data. *J. Peasant. Stud.* **2013**, *40*, 485–501, <https://doi.org/10.1080/03066150.2013.801340>.
33. Oya, C. Methodological reflections on ‘land grab’ databases and the ‘land grab’ literature ‘rush’. *J. Peasant. Stud.* **2013**, *40*, 503–520, <https://doi.org/10.1080/03066150.2013.799465>.
34. Von Braun, J.; Meinzen-Dick, R.S. “Land Grabbing” by Foreign Investors in Developing Countries: Risks and Opportunities. In *IFPRI Policy Brief*; International Food Policy Research Institute (IFPRI): Washington, DC, USA, 2009; Volume 13.
35. Von Egan-Krieger, T. The “ideal market” as a normative figure of thought. Analysing the reasoning of the World Bank pro land grabbing. *Real-World Econ. Rev.* **2021**, *95*, 11–28.
36. Imperial, M. New Materialist Feminist Ecological Practices: La Via Campesina and Activist Environmental Work. *Soc. Sci.* **2019**, *8*, 235, <https://doi.org/10.3390/socsci8080235>.
37. Rosset, P. Re-thinking agrarian reform, land and territory in La Via Campesina. *J. Peasant. Stud.* **2013**, *40*, 721–775, <https://doi.org/10.1080/03066150.2013.826654>.
38. Zoomers, A.; Kaag, M. Conclusion: Beyond the global land grab hype—Ways forward in research and action. In *The Global Land Grab: Beyond the Hype*; Kaag, M., Zoomers, A., Eds.; Zed Books: London, UK; New York, NY, USA, 2014; pp. 201–216.
39. Nolte, K. Doomed to fail? Why some land-based investment projects fail. *Appl. Geogr.* **2020**, *122*, 102268, <https://doi.org/10.1016/j.apgeog.2020.102268>.
40. Ouma, S. From financialization to operations of capital: Historicizing and disentangling the finance–farmland–nexus. *Geoforum* **2016**, *72*, 82–93, <https://doi.org/10.1016/j.geoforum.2016.02.003>.
41. Ouma, S. *Farming as Financial Asset—Global Finance and the Making of Institutional Landscapes*; Agenda Publishing: Newcastle upon Tyne, UK, 2020.
42. Hall, R.; Edelman, M.; Borrás, S.M., Jr.; Scoones, I.; White, B.; Wolford, W. Resistance, acquiescence or incorporation? An introduction to land grabbing and political reactions ‘from below’. *J. Peasant. Stud.* **2015**, *42*, 467–488, <https://doi.org/10.1080/03066150.2015.1036746>.
43. Vanclay, F.; Hanna, P. Conceptualizing Company Response to Community Protest: Principles to Achieve a Social License to Operate. *Land* **2019**, *8*, 101, <https://doi.org/10.3390/land8060101>.
44. FAO. *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security*; Food and Agriculture Organization of the United Nations (FAO): Rome, Italy, 2012. Available online: <http://www.fao.org/3/i2801e/i2801e.pdf> (accessed on 2 September 2021).
45. Hunsberger, C. Explaining bioenergy: Representations of jatropha in Kenya before and after disappointing results. *SpringerPlus* **2016**, *5*, 2000, <https://doi.org/10.1186/s40064-016-3687-y>.
46. Heinimö, J.; Junginger, M. Production and trading of biomass for energy—An overview of the global status. *Biomass Bioenergy* **2009**, *33*, 1310–1320, <https://doi.org/10.1016/j.biombioe.2009.05.017>.
47. Ariza-Montobbio, P.; Lele, S.; Kallis, G.; Martínez-Alier, J. The political ecology of Jatropha plantations for biodiesel in Tamil Nadu, India. *J. Peasant. Stud.* **2010**, *37*, 875–897, <https://doi.org/10.1080/03066150.2010.512462>.
48. Baird, I.G. Degraded forest, degraded land and the development of industrial tree plantations in Laos. *Singap. J. Trop. Geogr.* **2014**, *35*, 328–344, <https://doi.org/10.1111/sjtg.12076>.
49. Baka, J. The Political Construction of Wasteland: Governmentality, Land Acquisition and Social Inequality in South India. *Dev. Change* **2013**, *44*, 409–428, <https://doi.org/10.1111/dech.12018>.

50. Exner, A.; Bartels, L.E.; Windhaber, M.; Fritz, S.; See, L.; Politti, E.; Hochleithner, S. Constructing landscapes of value: Capitalist investment for the acquisition of marginal or unused land—The case of Tanzania. *Land Use Policy* **2015**, *42*, 652–663, <https://doi.org/10.1016/j.landusepol.2014.10.002>.
51. Hall, D. Land grabs, land control, and Southeast Asian crop booms. *J. Peasant. Stud.* **2011**, *38*, 837–857, <https://doi.org/10.1080/03066150.2011.607706>.
52. Cotula, L. The international political economy of the global land rush: A critical appraisal of trends, scale, geography and drivers. *J. Peasant. Stud.* **2012**, *39*, 649–680, <https://doi.org/10.1080/03066150.2012.674940>.
53. Gillon, S. Flexible for whom? Flex crops, crises, fixes and the politics of exchanging use values in US corn production. *J. Peasant. Stud.* **2016**, *43*, 117–139, <https://doi.org/10.1080/03066150.2014.996555>.
54. De los Reyes, J.; Sandwell, K. *Flex Crops: A Primer*; Transnational Institute (TNI): Amsterdam, The Netherlands, 2018; Volume 6.
55. Adamczewski, A.; Jamin, J.-Y.; Burnod, P.; Boutout Ly, E.H.; Tonneau, J.-P. Terre, eau et capitaux: Investissements ou accaparements fonciers à l'Office du Niger? *Cah. Agric.* **2013**, *22*, 22–32, <https://doi.org/10.1684/agr.2012.0601>.
56. Adams, E.A.; Kuusaana, E.D.; Ahmed, A.; Campion, B.B. Land dispossessions and water appropriations: Political ecology of land and water grabs in Ghana. *Land Use Policy* **2019**, *87*, 104068, <https://doi.org/10.1016/j.landusepol.2019.104068>.
57. Borrás, S.M., Jr.; Fig, D.; Suárez, S.M. The politics of agrofuels and mega-land and water deals: Insights from the ProCana case, Mozambique. *Rev. Afr. Political Econ.* **2011**, *38*, 215–234, <https://doi.org/10.1080/03056244.2011.582758>.
58. Chachage, C.; Baha, B. *Accumulation by Land Dispossession and Labour Devaluation in Tanzania, the Case of Biofuel and Forestry Investments in Kilwa and Kilolo*; Land Rights Research and Resources Institute: Dar es Salaam, Tanzania, 2010.
59. Kirst, S. “Chiefs do not talk law, most of them talk power.” Traditional authorities in conflicts over land grabbing in Ghana. *Can. J. Afr. Stud.* **2020**, *54*(3), 519–539, <https://doi.org/10.1080/00083968.2020.1719170>.
60. Lavers, T. ‘Land grab’ as development strategy? The political economy of agricultural investment in Ethiopia. *J. Peasant. Stud.* **2012**, *39*(1), 105–132, <https://doi.org/10.1080/03066150.2011.652091>.
61. McCarthy, J.F.; Vel, J.A.C.; Afiff, S. Trajectories of land acquisition and enclosure: development schemes, virtual land grabs, and green acquisitions in Indonesia's Outer Islands. *J. Peasant. Stud.* **2012**, *39*(2), 521–549, <http://dx.doi.org/10.1080/03066150.2012.671768>.
62. Welcome to VOSviewer. Available online: <https://www.vosviewer.com> (accessed on 2 July 2021).
63. GEXSI. *Global Market Study on Jatropha, Final Report*; GEXSI: London, UK; Berlin, Germany, 2008.
64. Edrisi, S.A.; Dubey, R.K.; Tripathi, V.; Bakshi, M.; Srivastava, P.; Jamil, S.; Singh, H.B.; Singh, N.; Abhilash, P.C. *Jatropha curcas* L.: A crucified plant waiting for resurgence. *Renew. Sustain. Energy Rev.* **2015**, *41*, 855–862, <https://doi.org/10.1016/j.rser.2014.08.082>.
65. Von Maltitz, G.; Gasparatos, A.; Fabricius, C. The Rise, Fall and Potential Resilience Benefits of *Jatropha* in Southern Africa. *Sustainability* **2014**, *6*, 3615–3643, <https://doi.org/10.3390/su6063615>.
66. Achten, W.; Sharma, N.; Muys, B.; Mathijs, E.; Vantomme, P. Opportunities and Constraints of Promoting New Tree Crops—Lessons Learned from *Jatropha*. *Sustainability* **2014**, *6*, 3213–3231, <https://doi.org/10.3390/su6063213>.
67. Achten, W.; Nielsen, L.R.; Aerts, R.; Lengkeek, A.G.; Kjær, E.D.; Trabucco, A.; Hansen, J.K.; Maes, W.H.; Graudal, L.; Akinnifesi, F.K.; et al. Towards domestication of *Jatropha curcas*. *Biofuels* **2010**, *1*, 91–107, <https://doi.org/10.4155/bfs.09.4>.
68. Walmsley, D.C.; Bailis, R.; Klein, A.-M. A Global Synthesis of *Jatropha* Cultivation: Insights into Land Use Change and Management Practices. *Environ. Sci. Technol.* **2016**, *50*, 8993–9002, <https://doi.org/10.1021/acs.est.6b01274>.
69. Openshaw, K. A review of *Jatropha curcas*: An oil plant of unfulfilled promise. *Biomass Bioenergy* **2000**, *19*, 1–15, [https://doi.org/10.1016/S0961-9534\(00\)00019-2](https://doi.org/10.1016/S0961-9534(00)00019-2).
70. Francis, G.; Edinger, R.; Becker, K. A concept for simultaneous wasteland reclamation, fuel production, and socio-economic development in degraded areas in India: Need, potential and perspectives of *Jatropha* plantations. *Nat. Resour. Forum* **2005**, *29*(1), 12–24, <https://doi.org/10.1016/j.biombioe.2012.06.020>.
71. BioZio. *Comprehensive Jatropha Report: A Detailed Report on the Jatropha Industry*; BioZio: Chennai, India, 2011.
72. Castro González, N.F. International experiences with the cultivation of *Jatropha curcas* for biodiesel production. *Energy* **2016**, *112*, 1245–1258, <https://doi.org/10.1016/j.energy.2016.06.073>.
73. GRAIN. *The Global Farmland Grab in 2016: How Big, How Bad?*; GRAIN: Barcelona, Spain, 2016.
74. Van Eijck, J.; Romijn, H.; Balkema, A.; Faaij, A. Global experience with *jatropha* cultivation for bioenergy: An assessment of socio-economic and environmental aspects. *Renew. Sustain. Energy Rev.* **2014**, *32*, 869–889, <https://doi.org/10.1016/j.rser.2014.01.028>.
75. Wahl, N.; Hildebrandt, T.; Moser, C.; Lüdeke-Freund, F.; Averdunk, K.; Bailis, R.; Barua, K.; Burritt, R.; Groeneveld, J.; Klein, A.-M.; et al. *Insights into Jatropha Projects Worldwide*; Leuphana University of Lüneburg: Lüneburg, Germany, 2012.
76. Simandjuntak, D. Riding the Hype: The Role of State-Owned Enterprise Elite Actors in the Promotion of *Jatropha* in Indonesia. *Sustainability* **2014**, *6*, 3780–3801, <https://doi.org/10.3390/su6063780>.
77. Nielsen, F.; Raghavan, K.; De Jongh, J.; Huffman, D. *Jatropha for Local Development after the Hype*; Hivos: The Hague, The Netherlands, 2013.
78. Kant, P.; Wu, S. The Extraordinary Collapse of *Jatropha* as a Global Biofuel. *Environ. Sci. Technol.* **2010**, *45*, 7114–7115.
79. Antwi-Bediako, R.; Otsuki, K.; Zoomers, A.; Amsalu, A. Global Investment Failures and Transformations: A Review of Hyped *Jatropha* Spaces. *Sustainability* **2019**, *11*, 3371, <https://doi.org/10.3390/su11123371>.
80. IEA Data and Statistics: Explore Energy Data by Category, Indicator, Country or Region. Available online: <https://www.iea.org/data-and-statistics/?country=WORLD&fuel=CO2%20emissions&indicator=CO2BySector> (accessed on 2 July 2021).
81. IEA India. Available online: <https://www.eia.gov/international/analysis/country/IND> (accessed on 2 July 2021).

82. World Bank Open Data. Available online: <https://data.worldbank.org> (accessed on 2 July 2021).
83. Gunatilake, H.; Roland-Holst, D.; Sugiyarto, G.; Baka, J. *Energy Security and Economics of Indian Biofuel Strategy in a Global Context*. Working Paper Series, No. 269, 2011, 1–13, ADB Economics: Mandaluyong, Philippines, 2011.
84. Valdés Rodríguez, O.; Vázquez, A.; Muñoz Gamboa, C. Drivers and Consequences of the First *Jatropha curcas* Plantations in Mexico. *Sustainability* **2014**, *6*, 3732–3746, <https://doi.org/10.3390/su6063732>.
85. Banerjee, A.; Halvorsen, K.E.; Eastmond-Spencer, A.; Sweitz, S.R. Sustainable Development for Whom and How? Exploring the Gaps between Popular Discourses and Ground Reality Using the Mexican *Jatropha Biodiesel* Case. *Environ. Manag.* **2017**, *59*, 912–923, <https://doi.org/10.1007/s00267-017-0848-x>.
86. Fairless, D. The little shrub that could—Maybe. *Nat. News Feature* **2007**, *447*, 652–655, <https://doi.org/10.1038/449652a>.
87. *Jatropha* Seeds Yield Little Hope for India's Oil Dream—Pilot Program's Output is Below Expectations, but Coming Changes Could Make Plans Viable. Available online: <https://www.thenationalnews.com/business/jatropha-seeds-yield-little-hope-for-india-s-oil-dream-1.495519> (accessed on 2 July 2021).
88. De Hoop, E.; Arora, S. How Policy Marginalizes Diversity: Politics of Knowledge in India's Biodiesel Promotion. *Sci. Cult.* **2020**, *30*, 261–286, <https://doi.org/10.1080/09505431.2020.1820473>.
89. GoI. *Report of the Committee on the Development of Bio-Fuel*; Government of India, Planning Commission: New Delhi, India, 2003.
90. FAO; UNICEF; WFP; WHO. *The State of Food Security and Nutrition in the World 2020—Transforming Food Systems for Affordable Healthy Diets*; FAO: Rome, Italy; IFAD: Rome, Italy; UNICEF: Rome, Italy; WFP: Rome, Italy; WHO: Rome, Italy, 2020.
91. Baka, J. What wastelands? A critique of biofuel policy discourse in South India. *Geoforum* **2014**, *54*, 315–323, <https://doi.org/10.1016/j.geoforum.2013.08.007>.
92. Baka, J. Making Space for Energy: Wasteland Development, Enclosures, and Energy Disposessions. *Antipode* **2017**, *49*, 977–996, <https://doi.org/10.1111/anti.12219>.
93. Amanor, K.S. Global resource grabs, agribusiness concentration and the smallholder: Two West African case studies. *J. Peasant Stud.* **2012**, *39*, 731–749, <https://doi.org/10.1080/03066150.2012.676543>.
94. Scoones, I.; Hall, R.; Borrás, S.M., Jr.; White, B.; Wolford, W. The politics of evidence: Methodologies for understanding the global land rush. *J. Peasant Stud.* **2013**, *40*, 469–483, <https://doi.org/10.1080/03066150.2013.801341>.
95. Axelsson, L.; Franzen, M.; Ostwald, M.; Berndes, G.; Lakshmi, G.; Ravindranath, N.H. *Jatropha* cultivation in southern India: Assessing farmers' experiences. *Biofuels Bioprod. Bioref.* **2012**, *6*, 246–256, <https://doi.org/10.1002/bbb.1324>.
96. Baka, J.; Bailis, R. Wasteland energy-scapes: A comparative energy flow analysis of India's biofuel and biomass economies. *Ecol. Econ.* **2014**, *108*, 8–17, <https://doi.org/10.1016/j.ecolecon.2014.09.022>.
97. Biswas, K.P.; Pohit, S. What ails India's biodiesel programme? *Energy Policy* **2013**, *52*, 789–796, <https://doi.org/10.1016/j.enpol.2012.10.043>.
98. Findlater, K.M.; Kandlikar, M. Land use and second-generation biofuel feedstocks: The unconsidered impacts of *Jatropha* biodiesel in Rajasthan, India. *Energy Policy* **2011**, *39*, 3404–3413, <https://doi.org/10.1016/j.enpol.2011.03.037>.
99. Gopinathan, M.C.; Sudhakaran, R. Biofuels: Opportunities and challenges in India. *Vitr. Cell. Dev. Biol.—Plant* **2009**, *45*, 350–371, <https://doi.org/10.1007/s11627-009-9217-7>.
100. De Hoop, E.; Arora, S. Material meanings: 'waste' as a performative category of land in colonial India. *J. Hist. Geogr.* **2017**, *55*, 82–92, <https://doi.org/10.1016/j.jhg.2016.10.001>.
101. Lahiri, S. *Losing the Plot—The Threats to Community Land and the Rural Poor through the Spread of the Biofuel Jatropha in India*; Friends of the Earth Europe: Brussels, Belgium, 2009.
102. Singh, K.; Awasthi, A.; Singh, R.P.; Tewari, S. Merging the margins for beneficial biofuels: An Indian perspective. In *Current Developments in Biotechnology and Bioengineering—Sustainable Bioresources for the Emerging Bioeconomy*; Kataki, R., Pandey, A., Khanal, S.K., Pant, D., Eds.; Elsevier: Amsterdam, The Netherlands, 2020; pp. 163–178.
103. Levien, M. *Dispossession without Development: Land Grabs in Neoliberal India*; Oxford University Press: Oxford, UK, 2018.
104. Gmünder, S.M.; Zah, R.; Bhattacharjee, S.; Classen, M.; Mukherjee, P.; Widmer, R. Life cycle assessment of village electrification based on straight *jatropha* oil in Chhattisgarh, India. *Biomass Bioenergy* **2010**, *34*, 347–355, <https://doi.org/10.1016/j.biombioe.2009.11.006>.