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10 Green grabbing – the case of palm oil expansion in so-called degraded areas in the eastern Brazilian Amazon

Maria Backhouse

Agrofuels have increasingly come under criticism in recent years. This criticism has not yet led to the cessation of state support, however. Instead, political decision-makers are presently discussing strategies to limit the potentially negative effects of agrofuel production. One strategy is to plant the crops for agrofuels in so-called degraded areas in order to prevent a shortage of foodstuffs or the deforestation of primary forests via direct or indirect changes in land use and competition for land. The World Bank estimates the area of ‘currently uncultivated, nonforested land that would be ecologically suitable for rainfed cultivation in areas with less than 25 persons/square kilometer (km²)’ at approx. 445 million hectares worldwide (Deininger *et al.* 2011: 77). Even Brazil, one of the world’s largest producers and consumers of agrofuels, is following this strategy. Since 2010, the Brazilian government has supported the production of palm oil in the Amazon basin, among other things for biodiesel production. The main cultivation areas are to be areas which are already deforested, preferably so-called degraded grazing land in the Amazonian state of Pará (EMBRAPA and MAPA 2010).

From the critical perspective of the political ecology of agrofuels, however, there can be no generally valid definition of so-called degraded areas. Areas which development strategists evaluated as degraded can, in fact, be the basis for the livelihoods of peasants or traditional local communities. (Blaikie and Brookfield 1987; Nalepa and Bauer 2012). The agroindustrial change in the use of so-called degraded areas can therefore strengthen the processes of appropriation and displacement of peasants in favour of agribusinesses which have been taking place for decades (Borras and Franco 2012; Nalepa and Bauer 2012). In this chapter, I argue on the basis of a case study¹ on the expansion of palm oil in the Brazilian state of Pará, that palm oil production in so-called degraded areas is a form of *green grabbing*.

The term *green grabbing* was first used by John Vidal (2008) and later discussed in a special issue of *The Journal for Peasant Studies* as a new capitalist form of the appropriation of nature (Fairhead *et al.* 2012). According to the authors, the term ‘appropriation’ means ‘the transfer of ownership, use rights and control over resources that were once publicly or privately owned – or not even the subject of ownership – from the poor (or everyone including the poor)

into the hands of the powerful' (ibid.: 238). The expression 'green grabbing' is used for the worldwide processes of appropriation and valuation of natural resources (such as the trade in CO₂ certificates) for environmental ends (ibid.). Green grabbing differs from simple land grabbing in that it is initiated by (national or transnational) environmental or climate protection measures – for example via the agroindustrial opening of allegedly degraded land. Environmental and climate policy objectives thus not only serve as 'green' legitimation strategies for land grabbing, but can themselves lead to processes of displacement or the loss of control over land access and land use as a result of specific political stimuli, for example support for the production of agrofuels. Green grabbing is also characterized by the fact that it is linked to new alliances of actors among the private sector, the state and NGOs, as well as by specific legitimation strategies and practices (ibid.: 239). Green grabbing involves not only the material process of appropriation, however, but also a specific 'discursive framing' (ibid.: 241). The creation and commodification of natural resources such as CO₂ and 'biofuels' and the production of agreement to this market-based form of environmental protection across all the political camps can only be understood with this additional focus on the scientific, political and everyday production of knowledge and new truths.

The thesis that palm oil expansion in Brazil represents green grabbing will be substantiated in this chapter in the following way: first, I will define green grabbing as the expression of continuous primitive accumulation in order to diagnose more precisely the analytical substance of green grabbing. I argue somewhat differently to Fairhead *et al.*, according to whom green grabbing can be an expression of primitive accumulation but is not necessarily such (Fairhead *et al.* 2012: 238). Continuous primitive accumulation describes the establishment or restructuring of capitalist relationships of ownership and production for the appropriation of surplus value or expanded reproduction from a Marxist perspective. On the basis of a re-interpretation of primitive accumulation, I shall identify the material, political and discursive dimensions of the flexible analysis concept of green grabbing. The analysis of the expansion of the oil palm plantations in northern Pará as a process of green grabbing follows in the third section. I proceed here from the history of the oil palm in Pará and then analyse the material, political and discursive dimensions of the current agroindustrial expansion. Taking the example of the powerful narrative of the degraded Amazon areas together with the state supported expansion of palm oil in Brazil, I will show how a natural resource is produced and legitimized for its agroindustrial development, and how societal agreement to this is produced and resistance made difficult. Finally, the results will be summarized.

Analysis of green grabbing

I agree with the diagnosis of critical political ecology that the present socio-ecological symptoms of crisis such as climate change, the energy crisis and the agricultural crisis are expressions of a multiple, capitalist crisis of society

(Demirović *et al.* 2011). Primitive accumulation – understood as the establishment or restructuring of capitalist relationships of ownership and production – can be a strategy for dealing with this by developing new fields of accumulation (e.g. arable land) or creating them (e.g. emissions trade), by means of dispossession, enclosures or privatization. In this way the socio-ecological crisis offers capital the opportunity to place superfluous capital from other areas (e.g. the finance sector) in these fields (Zeller 2010: 103). Thus, I understand green grabbing as a central form of this crisis management.

I understand primitive accumulation (Marx 1962 [1867]: 741–791) not as a unique historical phase during the emergence of capitalism, but as an ‘inherent and continuous element of modern societies’ (De Angelis 2001: 3). Massimo de Angelis’ interpretation of primitive accumulation as a continuous element of capitalism provides two important impulses for the more precise development of the analytical concept of green grabbing. He places the analytical focus on the process of the *separation* of the producers and means of production (De Angelis 2001: 7). In doing so, he makes an important differentiation: in contrast to the processes of separation within simple capital accumulation, in the case of primitive accumulation we are talking about the *original* creation of capitalist relationships of production and ownership or their extensive restructuring within capitalism (De Angelis 2001: 8f.) This original or repeated separation is set in motion by *extra-economic* means such as state intervention, a renewal of the legislative framework or direct violence. It is decisive that it is not the methods of separation such as robbery or enclosure that are characteristic of continuous primitive accumulation, but the creation or restructuring of capitalist social relations.

De Angelis, by describing the processes of separation as contested and in their historical course as contingent, also makes clear the political dimensions of the separation, or of continuous primitive accumulation (De Angelis 2001: 16). Applied to green grabbing, this means that whether in a particular region the agroindustrial production of agrofuel crops prevails against other forms of land use, also depends on the actors, their alliances and conflicts. This opens up a field of social conflicts: with this analytical focus on the actors and their resistance, the process of separation also has a subversive, emancipatory potential.

The means of separation are not necessarily based on violence. If the restructuring processes are convincingly legitimized across the social classes, i.e. have become hegemonial in a Gramscian sense, green grabbing can also take place ostensibly peacefully (cf. Kelly 2011: 692). In order to be able to grasp the discursive dimension of green grabbing, I supplement the ideology-critical dimension of Marx’ concept of primitive accumulation by Hall’s ideology-theoretical deliberations. The ideology-critical dimension in Marx is indicated, first, in his criticism of bourgeois economics (Hymer 1971; Perelman 1983; Kalmring 2013), in which he destroys the foundations of the bourgeois self-conception (liberty, equality, fraternity) with his descriptions of the violent development of capitalism. Second, Marx describes primitive accumulation as a disciplining

process through which the industrial proletariat is created (Negt and Kluge 1983).

Following Hall's ideology-critical deliberations, we can take these two moments together and ask with what narratives and practices dominant ideologies are produced and green grabbing in so-called degraded areas is legitimized as 'right' and 'without alternative' even among the subjugated classes (Hall 1981, 1988). Hall understands ideologies not as false consciousness or intended manipulation on the part of the ruling classes, but in the Gramscian sense as *hegemonial* viewpoints. Although these are entwined with societal relationships of power, they are, in principle, contested and can be questioned or undermined. According to Hall, it is decisive that although ideologies cannot be derived from the economic basis or specific class positions, they cannot be understood independently of the material relations and powerful institutions which (re-)produce them. In addition, with his concept of articulation he developed a useful analysis tool for examining ideologies as the articulation or entwining of different elements to a specific chain of meaning (Hall 1981). It can thus be examined in what way concepts such as 'degraded areas' are positioned in different viewpoints, and ideas which are taken for granted, truths, and identifying or knowledge positions are produced and questioned by individual or collective subjects.

Proceeding from the above, *green grabbing* is when, in connection with strategies for dealing with the socio-ecological crisis, the control over land access and land use is concentrated on local elites or transnational enterprises, and peasant relations of ownership and labour are *restructured* in this process for expanded reproduction or the appropriation of surplus value. The restructuring processes, in the sense of continuous primitive accumulation, can manifest themselves in the integration of peasants into the palm oil sector, in their displacement from their land through either its purchase or new legal forms, or in their being expelled by force or the threat of force.

Analysing the palm oil expansion in Pará as a process of green grabbing therefore requires the contextualization of the regionally specific, historical relationships of land access and land use. Only in this way can we determine whether a restructuring of the relations of land access and land use, the criterion for green grabbing, has taken place. In addition, against the background of the above considerations, it includes three analytical dimensions: the material (relations of land ownership and land access), the political (power, class and other societal relations) and the discursive (ideologies, opinions, legitimation strategies and legitimation practices). These three analytical dimensions are inseparably entwined and can only be differentiated analytically. The following questions relate to them.

On the material analysis level we ask: how do palm oil investments change control over the relations of land access and land use? Who profits from this? On the political level we ask: how are power relations distributed? Who positions themselves, and how, to the changes? Is there resistance to the growing oil palm plantations? If so, from whom? And how is this articulated? On the discursive level we ask: how is green grabbing defined and justified? How is it connected

with measures to deal with the socio-ecological crisis? Who has the right to define which areas are degraded? How is acceptance campaigned for in the various population groups? How are new truths created? How is contradiction silenced?

Palm oil in Pará/Brazil

The African oil palm (*Elaeis guineensis*) was brought to Brazil by African slaves 400 years ago (Watkins 2011). It was introduced into the Amazon basin for the first time by researchers in 1942 and from the 1970s onward was promoted by the military dictatorship as part of its Amazon development policy (Silva *et al.* 2011; Furlan Junior *et al.* 2006). The target groups of the financial incentives under this development policy were the enterprises and banks which established the first plantations. As in numerous other large projects, land robbery and violent land conflicts took place (Acevedo Marin 2010). Already in 1980, the promotion of biodiesel on the basis of palm oil was planned in imitation of the Proalcool programme.² However, due to technical problems and falling oil prices, this plan ceased to be pursued at the end of the 1980s and the palm oil project in the Amazon basin was regarded (for the time being) as a failure (Homma and Furlan Junior 2001). In 2009, the plantation areas in Pará covered not quite 50,000 hectares, while, at roughly the same time, the soya fields grew to over eight million hectares (IBGE 2009).

Between 2002 and 2006 at the federal state level, pilot projects³ were initiated in Pará to integrate peasants into the palm oil sector by means of farming contracts. Comprehensive state support for the Brazilian palm oil sector did not begin until 2010, however, with the state programme for sustainable palm oil production (*Programa de Produção Sustentável da Palma de Óleo*). In this programme the Brazilian government combined national energy and development policy goals with international climate policy targets and strategies for dealing with the socio-ecological crisis:

- *Economic policy*: in the short term, national requirements for foodstuffs and cosmetics are to be met, of which at present more than 50 per cent are met by imports.
- *Energy policy*: in the medium term, the basis for biodiesel is to be diversified. At present it is based to about 80 per cent on soya oil, a waste product of the animal feed export industry (USDA 2012).
- *Development policy*: the labour-intensive oil palm plantations are to create work and market access for small contract farmers and in this way contribute to the development of impoverished rural regions. Similarly to the national biodiesel programme,⁴ a social seal is to guarantee the inclusion of peasant agriculture. If enterprises commit themselves to buying 15 per cent of their palm oil from the peasants, this seal will entitle them to preferential sales conditions on the national biodiesel market and free them from taxes.
- *Climate policy*: via the establishment of agro-ecological zones, it is to be

ensured that only areas which were deforested before 2008 will be transformed into oil palm plantations and that no environmentally protected areas or territories of traditional communities will be endangered. This strategy of CO₂ avoidance through the prevention of deforestation and the agricultural use of already altered lands is intended to contribute to Brazil's voluntary climate protection goals (Brazilian Government 2010). Approximately 31.8 million hectares, which have already been transformed in the Amazon basin and the rainy coastal areas of northeast Brazil have, accordingly, been zoned as suitable for oil palm planting (EMBRAPA and MAPA 2010).

The main cultivation area is the northeast of the federal state of Pará. According to the Brazilian Agricultural Research Corporation EMBRAPA (*Empresa Brasileira de Pesquisa Agropecuária*) there are about 5.5 million hectares suitable for oil palm plantations in a contiguous region of 44 municipalities. So-called degraded grazing land has been given priority. In favour of the northeast region of Pará as the 'Brazilian palm oil centre' is also its excellent location near the state capital and port of Belém, as well as its greater distance to the biodiversity hot spots of the Amazon basin (Muller *et al.* 2006).

Green grabbing in Pará

Since the adoption of the programme the area covered by oil palm plantations in Pará increased almost threefold to 140,000 hectares in 2013 (Glass 2013: 5). By mid-2012, a total of 649 peasant families had signed palm oil production contracts with the palm oil companies (MDA 2012b). Transnational enterprises such as the state energy company Petrobras, the mining company Vale and the US concern ADM (Archer Daniels Midland Company) invest in plantations and processing facilities and compete with local palm oil companies (e.g. Agropalma, Dendê-Tauá and Marborges) for land, plantation workers and potential contract farmers.

The current expansion of agroindustrial palm oil production is having an increasing effect on the landscape. Grid-patterned plantations are being established, with up to 10,000 hectares per unit – known as *pólos* in Portuguese – and with processing mills being constructed at their centres. The contract farmers' plots are scattered around the plantations within a radius of no more than 30 kilometres. Since the fruits must be processed within 24 hours of being harvested, a high logistical effort is required. This includes the tight organization of work on the plantations, a suitable transport infrastructure (roads, rivers, bridges, ports) and processing in the neighbourhood of the plantations (see Marín-Burgos, Chapter 9 and Dietz *et al.*, Chapter 3 in this volume).

The major driver of the current oil palm expansion in the region is Vale, the second-largest mining company in the world. This Brazilian enterprise explains its entry into the palm oil sector with its strategy of establishing itself on a global scale as a sustainable actor and of producing renewable energy for its own needs. By 2020, the fuel blend for its vehicle fleet is to contain 20 per cent biodiesel.

By 2013, Vale had established 40,000 hectares of oil palm plantations in Pará (USDA 2013). The production of agrodiesel is to begin in 2014 and will be expanded annually. Company employees estimate that the area farmed by the company will increase in the coming decades to four million hectares, with 15 per cent of production being obtained from small contract farmers.⁵ This expansion is to be in line with sustainability. In a press release, Vale assures us that: 'All areas used to grow palm trees have been mapped and classified by the federal government as degraded areas' (Vale 2011).

Restructuring the relations of land access and land use

The case-study region of the five contiguous municipalities of Moju, Acará, Bujaru, Tomé-Açu and Concórdia is by no means characterized simply by extensive grazing land, but also by heterogeneous peasant agriculture. It is one of the most densely-populated Amazon regions. According to census data, in 2010 the population of the case-study region was 234,016 in an area of 20,279 km², with somewhat more than half of the population living in the country and the rest in the towns (IBGE 2010a). At the same time, the region served an important function by supplying food to the metropolis of Belém. In the official statistics the region was classified as poor: according to the census poverty statistic, between 40 and 50 per cent of the rural population in the case-study region live below the Brazilian poverty line of 70 Reals monthly income per capita (approximately €35) (IBGE 2003, 2010b). According to the government, the palm oil sector therefore offers the peasants⁶ a unique chance of lucrative access to the market and could at least slow down the marginalization of peasant agriculture, which has been taking place for decades.

This is not the case, however. Land speculation and contract farming inclusions have stimulated a comprehensive restructuring process of peasant land access and land use, which indicates that green grabbing is taking place.

Land speculation

The expansion of the oil palm plantations has caused the price of land to rise and has made land speculation a lucrative business for intermediaries – usually ex-mayors and large landowners. This contains a serious conflict potential because in Pará most of the land titles are invalid due to widespread land theft by means of document forgery and the lack of a superior land registry office (Treccani 2001). In the municipality of Moju alone, the claims to land in the land registry amount to more than five times the area of the municipality (Treccani 2013). There is a considerable risk that conflicts will be caused by differing claims to land.

The growing purchases of land from the peasants in the region have already started a process of displacement in the sense of green grabbing, without direct force being used. In the municipalities of Acará⁷ and Bujaru (Nahum and Malcher 2012) the exodus of almost entire village communities could already be

observed in 2011. Land purchase as such is a normal market process and not necessarily an indication of green grabbing. Rather, the extra-economic displacement effect of green grabbing arises in connection with the large asymmetries of power between buyers and peasants as well as the smouldering, sometimes decades-old land conflicts in the region. Families are increasingly isolated by the growing plantation areas due to the sales of their neighbours' land; they are no longer able to resist the pressure of the agricultural dealers, and thus they sell their own land. Pressure arises, for example, when agricultural dealers threaten peasants without land titles that they would lose their land in any case because of the missing documents, and that they should take the opportunity to sell their land before that happens.

Contract farming inclusion

The contract farming inclusion of peasant farms sets off a restructuring process that results in the peasants largely losing control over the use of their land, even if they formally remain the owners.

The peasant forms of land use in the neighbourhood of the *pólos* are reorganized both spatially and temporally into agroindustrial suppliers for the agroindustrial palm oil complex: their land is converted into monocultural mini-plantations. In order to ensure efficient production, the day on which each individual stage in the work has to take place is specified, and this is monitored by the company's agro-technicians. If the peasants do not stick to the management regulations, the loan-issuing state bank suspends their account in consultation with the company concerned. The process of restructuring peasant land use is therefore accompanied by a disciplinary process.⁸ With contract farming, the peasants surrender the control over their land and their labour and are at the same time directly subjected to the price trend of their products on the world market.

This dependence is strengthened by the fact that none of the traditional regional crops can be produced in between oil palms. Mixed cultivation is not provided for. The palm oil companies do not allow their contract farmers to deviate from monocultural planting on their palm oil plots for reasons of productivity and profit. Furthermore, the companies define the size of small-scale production as a uniform 10 hectares in order to keep organizational and transport costs as low as possible – although the state loan regulations for small-scale farmers (PRONAF-Éco)⁹ would also allow the funding of smaller production units. This could lead in future to a reduction of the regional supply of food and strengthen the dependence of the families on the palm oil sector if the families do not possess adequate additional plots and labour to produce food.

The palm oil companies do not have to grab or buy land in order to obtain the peasants' plots. The planting of oil palms itself creates different long-term facts to those created, for example, by the grazing of a herd of animals. Palm oil producers are tied to the sector for at least 25 years by the life cycle of the oil palm, as the transformation of a palm oil plantation for another use is complex and

expensive, and is therefore not an option for small farmers. The companies therefore do not shy away from planting palm oil plantations or contract farming plots, even without legal security concerning the land involved: somebody will (have to) farm them.

The contract farming inclusion of peasants into the agroindustry has been controversial for decades (Little 1994); it must not necessarily be the result of land grabbing (Borras and Franco 2012: 53). The way in which the peasants in Pará have been integrated into the palm oil sector, however, is an indication of a separation process in the sense of continuous primitive accumulation. With its objective of the more effective appropriation of surplus value, it is tied to the loss of control by the peasants over their land access and land use, although they remain the formal owners of their plots. The reorganization of the relations of production takes place almost exclusively in favour of the palm oil sector, which passes on the production risks (disease, bad harvests), compliance with national environmental and labour laws and fluctuating world market prices to the peasants without having to buy land or pay legal minimum wages.

It is uncertain how contract farming inclusion will continue to develop. The number of contract farmers in Pará has not, until now, fulfilled the companies' targets of having several thousand families under contract. According to one Vale employee, it is difficult to find 'suitable' families who own enough land, can supply enough labour and are creditworthy. Many peasants are also suspicious and have no desire to sign a contract.¹⁰

The political dimension of green grabbing

The interviews with peasants and actors from civil society, private firms and the state in the region show that the restructuring processes of land access and land use cause criticism and controversy. Whereas some see in the palm oil programme a unique opportunity for the economic development of the region, others regard it as a renewed attempt by agribusiness to appropriate Amazonia. In the interviews, all the actor groups, apart from the company employees, regarded the increase in land purchases as entailing the risk of strengthening the migration of the rural population to the impoverished areas of the towns and cities, which is already taking place. In addition, the negative socio-ecological effects of plantation expansion, such as the contamination of river and drinking water by pesticides and the illegal deforestation of secondary forests, were problematized.

In contrast, positions with regard to the interpretation of small-scale contract farming vary: it is regarded either as a unique chance in the struggle against rural poverty or as part of an expropriation strategy. Opposing positions can also be found among the peasants: some of them wish unconditionally to take part in this 'project',¹¹ while others are hesitant or involve themselves in peasant associations and neighbourhood groups against contract farming production. Contradiction and resistance on the part of the peasants to the palm oil project can be implied from their distrustful hesitancy to accept Vale's contract farming offers.

However, in spite of the controversies and the criticism by various different actors in the interviews and group discussions, by the end of 2013 still no politically organized resistance to the state palm oil programme had been formed. No political alliances have been formed between critical factions of the rural population, the trade unions and social movements. It therefore remains largely without consequence that the public hearings which are required for major projects took place neither before the start of the state palm oil programme in 2010 nor during the first three years of its implementation.¹² The situation is similar with regard to the required environmental impact assessments and environmental licenses: in 2011, according to the federal environmental authority SEMA (*Secretaria do Estado de Meio Ambiente*),¹³ not one single newly investing palm oil company had carried out the required environmental impact assessment, nor was any of them in possession of the required environmental license for the establishment of plantations. This, too, was problematized by state, trade union and civil society actors in the interviews, but it remained without political consequence until at least the time of writing (end of 2013).

In some places the conditions for political resistance simply do not exist: in some of the expansion areas, parts of the peasant population are socially so marginalized that they have neither places for political articulation nor state or civil society centres for dealing with their demands or complaints. Civil society actors hardly exist outside of the agricultural trade unions in the entire case-study region. Ironically, by the end of 2013, the latter still had no uniform position with regard to the expansion of the palm oil project: some of them, such as the trade union representatives in Moju and Bujaru, openly promoted small-scale contract farming in the palm oil sector, while others were hesitant and only a few individual trade unionists from Acará and Tomé-Açu have openly taken up a position which is critical of the government's palm oil programme.

The discursive dimension: the narrative of the degraded areas in the tropics

In my opinion the lack of protest or politically audible resistance can be explained by the fact that the oil palm expansion has been established, even in the eyes of most of its critics, as without alternative and inevitable. For opponents of the state programme it is difficult to find allies against the widespread consensus in the region that the expansion of the oil palm plantations is a 'green' development in a 'degraded region'. According to one environmental secretary, it is meaningful to plant oil palms on 'grazing lands which produce nothing and are useful to nobody'.¹⁴ An ex-trade union leader, now Agrarian Secretary in Concórdia, explains: 'Of course oil palm plantations have negative environmental effects. But in this way we create jobs for young people who have no education and no perspectives.'¹⁵

Resistance to the government programme is therefore forced to justify itself, as was shown in our interviews with critical actors. The latter often began their statements with a justification: 'Of course I am not opposed to planting grazing

land with oil palm but...'¹⁶ In their opinion, what basically spoke against the palm oil programme was the agroindustrial, monocultural model that was being supported by the state and was strengthening the displacement of peasant forms of land use. They seemed speechless regarding the definition of their region as largely degraded.

This speechlessness in public can be explained by the narrative of the degraded areas, which is by no means new but nevertheless powerful, according to which tropical forests are being linearly degraded by deforestation and by the growing population because of their sensitive ecosystem. In addition to the extensive grazing land, the traditional practice of shifting cultivation¹⁷ in particular accelerates this process of degradation when the population is growing. Researchers from various disciplines have shown since the 1990s that the tropical ecosystems are much more complex and in part more resilient than classical tropic ecology has assumed (e.g. Nepstad *et al.* 1996). Neo-Malthusian explanations¹⁸ and homogenizing assumptions concerning Amazonian shifting cultivation are also unsustainable against the background of diverse peasant strategies of adaptation and survival (Hurtienne 1999, 2005; Hecht 2005; Almeida 2008) and of new knowledge concerning complex, relatively intensive use systems in past civilizations (Heckenberger and Neves 2009).

Nevertheless, this naturalizing narrative continues to be influential and has been given a new meaning with the climate policy orientation of the palm oil programme: the palm oil plantations, according to a government information brochure, are to restore the degraded areas and thus contribute to Brazil's voluntary commitments to climate protection through the avoidance of deforestation and lower carbon emissions (Brazilian Government 2010). The oil palm plantations, according to the Agricultural Research Corporation EMBRAPA, were ideal for the 'reforestation' of degraded tropical soils because palms could grow in nutrient-poor soils and protect them from dehydration and erosion caused by wind and rain (Furlan Junior *et al.* 2006: 96). In addition, the palms sequestered CO₂, especially during their growth phase (*ibid.*: 102). Through the integration of peasant farmers into oil palm production, the peasants could also be offered an economically reliable alternative to the practice of degrading shifting cultivation (*ibid.*: 99). The homogenization of peasant forms of land use, and their classification as a cause of degradation, is not only maintained here, but worsened as also being damaging to the climate.

The decisive scientific instrument for the apparently objective identification of the areas to be restored is the spatial planning instrument of agro-ecological zoning (EMBRAPA and MAPA 2010). In the official zoning document, in contrast to political statements and interviews, the term 'degraded' is scarcely used (*ibid.*). Instead, the document only designates, on the basis of the deforestation data from the monitoring system PRODES (*Programa de Cálculo do Desflorestamento da Amazônia*), areas which were deforested before 2008, have soil characteristics and climate conditions (rainfall and solar radiation) that correspond to the requirements of the oil palm and fulfil the requirements of the agroindustrial palm oil complex (minimum amount of infrastructure and an

adequate supply of labour). It is implied in the document, however, that about 80 per cent of the deforested areas are 'exhausted, degraded or abandoned grazing land' (EMBRAPA and MAPA 2010: 36). The characteristics of degraded grazing land are not defined. Decisions as to where the main production sites should be located are taken exclusively by a committee of experts, consisting of representatives of palm oil enterprises and state technical authorities. The rural population is included in the zoning plan only via economic and demographic data as potential workers or contract farmers. Their participation in decision-making is not provided for.

Agro-ecological zoning is not only an instrument of legitimation for the palm oil sector. In Pará it produces for the first time the natural resource 'degraded land' for renewed development by the agroindustrial palm oil complex (cf. Nalepa and Bauer 2012). The region can only be appropriated by the agroindustry through its definition, location and classification in combination with the corresponding credit lines of the support programme. That which is special and 'green' is the fact not only that the conditions for green grabbing are created by state institutions, but that these are legitimized by the political objectives of protecting primary forests and of contributing to national climate protection targets by reducing CO₂ emissions. This is possible because international climate policy is increasingly limited to the quantifiable (and therefore tradable) reduction of a single greenhouse gas (CO₂) (Brunnengräber and Dietz 2013).

This is an indication of a new legitimation narrative concerning what could become established as so-called climate-friendly Amazon policy: hot spots rich in biodiversity are to be protected by releasing so-called degraded areas to agroindustry. In order to achieve this, exceptions to the regulations must be found at the level of the environmental laws, as seen in the debates on exceptions to the Forest Law (*código florestal*),¹⁹ for example for reforestation with non-native oil palm and eucalyptus plantations. At the time of the passing of the palm oil programme in 2010, 'restoration' or 'reforestation' with oil palm plantations was not allowed by law. Nevertheless, it was already anticipated in a government brochure, as mentioned above (Brazilian Government 2010).

All of this has an effect on the way in which the palm oil programme can be justified, given a legal foundation and implemented as sustainable, desirable or without alternative in the case-study region, and explains why it is difficult, although not impossible, for critics to establish a counter-narrative. Engineers from Vale have explained in interviews that oil palms sequester much more CO₂ than natural forest and that they represent a unique chance of development for the degraded region.²⁰ The company had already created accomplished facts with the planting of its oil palm plantations in 2011, as if oil palm plantations for reforestation were already permitted by law. The signs around Vale's plantations emphasize this by describing them as a 'reforestation project'.

This climate policy upgrading of palm oil production is tied in the implementation process to the downgrading of peasant agriculture. One Vale manager characterized peasant manioc production as a vestige of a pre-modern era and linked it to negative attributes of the rural peasant population:

Manioc is a culture which is already hundreds of years old, where you see no sign of development. The people do not change their life-style and increase their pressure on the forest. If you look at satellite photos then you will see that the peasant families have degraded the region. Together with the big landowners with the large deforested areas they have caused the greatest damage (*impacto*). [...] All [the peasant families] come from the manioc culture. The majority ... all of them plant only manioc. Some of them have planted maize or rice to generate income, but to feed their families they prefer to plant manioc. Because their families have grown considerably, the same areas are used more quickly and so the soil becomes poorer even faster. [...] ²¹

Here, he is repeating the clichés concerning Amazonian peasant shifting cultivation and linking the introduction of contract farming to a modernization project. The reference to the satellite pictures of the region reproduces the diagnosis of regional crisis from an apparently neutral macro-perspective: the region is 'exhausted' and Vale's 'palm oil project' offers the region a unique opportunity for 'sustainable development'. From this perspective, rural poverty is not the result of an unequal distribution of income and access opportunities in society, but the consequence of an allegedly natural process of degradation due to population growth and outdated, 'traditional' forms of land use.

By classifying both the peasant systems of land use and extensive grazing lands as degraded areas and degraded practices in connection with a state-promoted support programme, the lack of an alternative to this strategy is discursively confirmed far beyond the region itself. Allies in regional or international environment forums are hard to find for the largely isolated critics of the palm oil programme. Existing counter-narratives of the peasants and representatives of civil society who attach greater value to peasant manioc production as the production of a basic regional foodstuff, or who question the classification of the region as degraded, are therefore almost inaudible.

Conclusion

Socio-ecological crises must not necessarily represent a limit to growth for capitalism, but can open up new fields of accumulation. The definition of green grabbing as an expression of continuous primitive accumulation enables us to differentiate new capitalist appropriation dynamics from already existing ones and to develop a differentiated analytical perspective for the political ecology of social change in connection with strategies for dealing with the socio-ecological crisis.

With green grabbing I have developed a flexible analytical tool for determining the extent to which control over relations of land access and land use in the sense of continuous primitive accumulation is restructured for expanded reproduction or the appropriation of surplus value. I have not defined the methods, dynamics and conflict constellations of green grabbing in advance; these must be

worked out case by case. It is imperative that not only the material and political dimensions of green grabbing are examined, but also the discursive dimensions. As is clearly shown in the case study of the Brazilian Amazon region, these three analytic dimensions are inseparably linked to one another. None of them can be examined separately from the other two or derived from them.

State support for palm oil production in Pará is a continuation of the process of displacement of Amazonian peasant agriculture, which was established in the colonial era and which has been strengthened since the development of the Brazilian agroindustry in the 1970s. Land grabbing has therefore shown certain continuities in the decades since then. However, the extension of palm oil production is linked to *new* dynamics that indicate the existence of green grabbing. What is *new* about green grabbing is that it is initiated and legitimized by state activities in the fields of energy, climate and development policy (production of agrofuels in so-called degraded areas in an 'impoverished' region) for dealing with socio-ecological crises (scarcity of fossil energy and climate change). This launches a process of separation in the sense of continuous primitive accumulation because, in this restructuring process, the peasants lose control over their land and their labour to the palm oil companies – even if they partly remain the owners of their plots. The methods of separation used here are not direct force but state support measures, specific purchasing practices of intermediaries and the practice of the agroindustrial inclusion of peasant agriculture. As I have shown, the discursive dimension of the analysis is important in order to be able to understand why these restructuring processes, despite the criticism expressed in the interviews, have not led to politically organized protest. In the case under examination, the narrative of the degraded areas of Amazonia has proved to be particularly powerful. Only because it is widely accepted, from local to transnational political forums, that so-called degraded areas should be developed agroindustrially for the protection of the tropical forest, can the local population's participation rights, and environmental laws, be circumvented by the large-scale extensions of plantations, without causing transnational protest as in the case of other large projects in Amazonia. The bias of transnational environmental policy towards the protection of primary forests and the concentration of climate protection on the reduction of CO₂ closes political articulation spaces to peasant actors who live in these allegedly less valuable areas. The narrative of the degraded areas is not only a legitimation strategy with political implications, but it also has material consequences: agro-ecological zoning produces the new resource of the to-be-developed degraded areas, and thus makes possible the restructuring processes in the region.

The outcome of the green grabbing process in Pará is uncertain. It cannot yet be estimated whether the peasants will be either displaced or bound into the agroindustry via contract farming, as in the Brazilian sugar cane and soya sectors. The course of this process will be influenced by many factors, such as the price development of the *commodity*, the success or failure of involving the peasants in contract farming and the political will of the government. It also depends on the actors themselves, however; on their alliances and struggles for

the control of land access and land use, and over the right to define allegedly degraded areas and their use, as well as the establishment of counter-narratives.

Notes

- 1 This contribution is based on the results of my doctoral dissertation, prepared from 2009 to 2013 within the framework of the project 'Fair Fuels?' (www.fair-fuels.de/en, last access: 15 January 2014), which was supported by the German Federal Ministry for Education and Research (BMBF). In field studies of several months' length in 2010 and 2011, more than 80 interviews were conducted with actors from the private sector, the state and civil society in Brasília, Belém and five of the 44 municipalities designated for oil palm production (Moju, Acará, Tomé-Açu, Concórdia and Bujaru) in Pará, and supplemented with grey literature and secondary data.
- 2 Against the background of the oil crises in the 1970s, Brazil supported the production of ethanol for vehicles on the basis of sugar cane through the Proalcool programme, cf. Borges *et al.* (1984).
- 3 In three public-private-partnership projects between the federal state of Pará, the Brazilian palm oil company Agropalma and 150 families, an oil palm plantation with a total area of 1,500 hectares was established between 2002 and 2006. Each family received a plot of 10 hectares within this contiguous plantation.
- 4 With the national biodiesel programme (*Programa Nacional de Produção e Uso de Biodiesel – PNPB*) which was passed in 2004 a new market access for the impoverished peasant agriculture was to be created (www.mda.gov.br/portal/saf/programas/biodiesel, last access: 15 January 2014).
- 5 Interviews with engineers in 2010 and 2011, and the company's own homepage (www.vale.com/brasil/EN/aboutvale/initiatives/biodiesel/Pages/default.aspx, last access: 27 February 2013).
- 6 Various different rural classes and forms of land use are subsumed in the category of peasants. Following the definition of the Brazilian Agricultural Ministry MDA (*Ministério de Desenvolvimento Agrário*), I include in this category those who live on their land and who generate 90 per cent of their income from it, who do not employ more than two agricultural labourers and whose land area does not exceed the regionally defined maximum size (between 25 and 350 hectares); cf. Rodrigues (2009). In the case-study region, peasant families who are eligible to become contract farmers for palm oil production own between 25 and 100 hectares of land.
- 7 The trade union representative from Acará reported in 2011 on the village of Bucaia, where within two years the majority of the peasants had sold their land and moved to the poor quarters of the town of Acará (interview, March 2011, Acará).
- 8 Statement by an employee of Banco da Amazônia in an Interview in May 2011 in Belém.
- 9 PRONAF (*Programa Nacional de Fortalecimento da Agricultura Familiar*): national programme for strengthening peasant agriculture.
- 10 Interviews May 2011, Moju and Concórdia.
- 11 In the interviews in the region, talk was usually of *the* project, which underlines that no other projects of support for agriculture are being implemented except the palm oil programme.
- 12 In April 2011, for example, federal labour party PT (*Partido dos Trabalhadores*) member Ganzer publicly criticized the fact that public hearings had not taken place, but this remained without consequence until the time of writing (end of 2013), cf. Flexa (2011).
- 13 Interview with two SEMA employees in May 2011 in Belém and statement by a SEMA employee in the workshop 'Os impactos sociais e ambientais dos investimentos em dendê no Pará', 21 October 2013 in Belém.

- 14 Statement by the Environmental Secretary from Bujaru during a group discussion in May 2011 in Bujaru.
- 15 Interview with the Agricultural Secretary, June 2011, Concórdia.
- 16 For example, a representative of the MST (*Movimento dos Trabalhadores Rurais Sem Terra*) in Belém, a trade unionist from Concórdia (both in June 2011), a trade unionist from Tomé-Açu in April 2011 and three employees of the state technical consultation authority for small farmers EMATER (Empresa de Assistência Técnica e Extensão Rural) (May, June, July 2011) all began their statements of their position with these words.
- 17 In the classical theories of tropical ecology and agrarian economics, shifting cultivation is described as the traditional, Amazonian form of land use: small areas of up to 5 hectares of tropical forest are burned down and the soil, which is fertilized by the ash and deacidified, is planted directly among the tree stumps with annual crops such as manioc. Following one or two years' use these areas are given over to the secondary forest. After a fallow period of between 10 and 15 years, the areas are cultivated again according to the same pattern (burning down and planting); Schmitz (2013: 330). It is criticized that this model of land use has been generally used to describe different Amazonian peasant forms of land use (*ibid.* and Hurtienne 1999, 2005).
- 18 Current approaches are described as neo-Malthusian which, like Thomas Robert Malthus, regard population growth as the main cause of the socio-ecological crisis and as the greatest risk for the continued existence of humanity.
- 19 See also the Brazilian Forest Code of 1965, Law No. 4.771/65, and the transitional regulation (medida provisória) No. 1.511 of 1996. The new Forest Law was passed at the end of 2012, following year-long controversies (Law No. 12.727 of 18 October 2012).
- 20 Interviews with three Vale managers (May and June 2011) in Moju and Concórdia.
- 21 Interview with a Vale manager (June 2011) in Concórdia.

References

- Acevedo Marin, Rosa E. (2010) 'Territórios Quilombolas Face à Expansão do Dendê no Pará', in Buenafuente, S.M.F. (ed.) *Amazônia. Dinâmica do Carbono e Impactos Socioeconômicos e Ambientais*, Boa Vista: Editora da UFRR, 165–184.
- Almeida, Alfredo Wagner B. de (2008) *Antropologia dos Archivos da Amazônia*, Rio de Janeiro: casa 8/F.U.A.
- Blaikie, Piers M. and Harold C. Brookfield (1987) *Land degradation and society*, London: Methuen.
- Borges, Uta, Heiko Freitag, Thomas Hurtienne and Manfred Nitsch (1984) *PROALCOOL. Analyse und Evaluierung des brasilianischen Biotreibstoffprogramms*, Saarbrücken, Fort Lauderdale: Verlag Breitenbach.
- Borras, Saturnino M. and Jennifer C. Franco (2012) 'Global land grabbing and trajectories of agrarian change: a preliminary analysis', *Journal of Agrarian Change* 12, 34–59.
- Brazilian Government (2010) 'Palma de Óleo. Programa de produção sustentável', folder, Brasília.
- Brunnengraber, Achim and Kristina Dietz (2013) 'Transformativ, politisch und normativ: für eine Re-Politisierung der Anpassungsforschung', *Gaia* 22, 224–227.
- De Angelis, Massimo (2001) 'The continuous character of capital's "enclosures"', *The Commoner* 2, 1–22.
- Deininger, Klaus, Derek Byerlee, Jonathan Lindsay, Andrew Norton, Harris Selod and Mercedes Stickler (2011) *Rising Global Interest in Farmland. Can it yield sustainable and equitable benefits?*, Washington, DC: World Bank.

- Demirović, Alex, Julia Dück, Florian Becker and Pauline Bader (eds) (2011) *Viel-fachKrise. Im finanzdominierten Kapitalismus*, Hamburg: VSA.
- EMBRAPA and MAPA (2010) *Zoneamento agroecológico do dendzeiro para as áreas desmatadas da Amazônia Legal*, Rio de Janeiro: Brasília.
- Fairhead, James, Melissa Leach and Ian Scoones (2012) 'Green grabbing: a new appropriation of nature?', *The Journal of Peasant Studies* 39 (2), 237–261.
- Flexa, Evandro (2011) 'Programa planta êxodo e colhe miséria. Em Tomé-Açu empresas compram terras do pequeno agricultor para cultivar palma de óleo', *O Liberal* 3.4.2011, 10.
- Furlan Junior, José, Franz J. Kaltner, Gil F. P. Azevedo and Ivonice A. Campos (2006) *Biodiesel. Porque tem que ser Dendê*, Belém: EMBRAPA.
- Glass, Verena (2013) *Expansão do dendê na Amazônia brasileira: elementos para uma análise dos impactos sobre a agricultura familiar no nordeste do Pará*, São Paulo: Repórter Brasil.
- Hall, Stuart (1981) 'The whites of their eyes. Racist ideologies and the media', in Bridges, G. and R. Brunt (eds) *Silver linings. Some strategies for the eighties: 12th Annual meeting: Papers*, London: Lawrence and Wishart.
- Hall, Stuart (1988) 'The toad in the garden: Thatcherism among the theorists', in Nelson, Cary and Lawrence Grossberg (eds) *Marxism and the Interpretation of Culture*, Illinois: University of Illinois, 35–57.
- Hecht, Susanna (2005) 'Soybeans, development and conservation on the Amazon frontier', *Development and Change* 36 (2), 375–404.
- Heckenberger, Michael and Eduardo G. Neves (2009) 'Amazonian archaeology', *Annual Review of Anthropology* 38, 251–266.
- Homma, Alfredo K.O. and José Furlan Junior (2001) 'Desenvolvimento da deindeicultura na Amazônia: Cronologia', in Muller, A.A. and José Furlan Junior (eds) *Agronegócio do dendê: uma alternativa social, econômica e ambiental para o desenvolvimento sustentável da Amazônia*, Belém: EMBRAPA, 193–207.
- Hurtienne, Thomas (1999) 'Agricultura Familiar na Amazônia Oriental. Uma comparação dos resultados da pesquisa socioeconômica sobre fronteiras agrárias sob condições históricas e agroecológicas diversas', *Novos Cadernos NAEA* 2 (1), 75–94.
- Hurtienne, Thomas (2005) Agricultura familiar e desenvolvimento rural sustentável na Amazônia, *Novos Cadernos NAEA* 8 (1), 19–71.
- Hymer, Stephen (1971) 'Robinson Crusoe and the secret of primitive accumulation', *Monthly Review* 23, 11–36.
- IBGE (2003) 'Mapa de Pobreza e Desigualdade – Municípios Brasileiros 2013', Rio de Janeiro (www.ibge.gov.br/estadosat/temas.php?sigla=pa&tema=mapapobreza2003, last access: 19 December 2013).
- IBGE (2009) 'Pará. Lavoura Permanente 2009', Brasília: IBGE (www.ibge.gov.br/estadosat/temas.php?sigla=pa&tema=lavourapermanente2009, last access: 14 January 2014).
- IBGE (2010a) 'Censo Demográfico', Brasília [www.ibge.gov.br/estadosat/perfil.php?sigla=pa, last access: 14 February 2014).
- IBGE (2010b) 'Indicadores Sociais Municipais 2010: incidência de pobreza é maior nos municípios de porte médio', Brasília (www.ibge.gov.br/home/presidencia/noticias/noticia_visualiza.php?id_noticia=2019&id_pagina=1, last access: 19 February 2014).
- Kalming, Stefan (2013) 'Die Krise als Labor gesellschaftlicher Entwicklung. Fortgesetzte ursprüngliche Akkumulation und die große Krise der Kapitalakkumulation', in Backhouse, Maria, Olaf Gerlach, Stefan Kalming and Andreas Nowas (eds) *Die*

- globale Einhegung – Krise, ursprüngliche Akkumulation und Landnahmen im Kapitalismus*, Münster: Westfälisches Dampfboot, 70–109.
- Kelly, Alice B. (2011) 'Conservation practice as primitive accumulation', *The Journal of Peasant Studies* 38 (4), 683–670.
- Little, Peter D. (1994) 'Contract farming and the development question', in Little, Peter D. and Michael Watts (eds) *Living under contract. Contract farming and agrarian transformation in Sub-Saharan Africa*, Madison: University of Wisconsin Press, 216–247.
- Marx, Karl (1962 [1867]) '*Das Kapital*. Kritik der Politischen Ökonomie. Band I', in *Marx Engels Gesamtausgabe (MEW)* 23, Berlin: Dietz.
- MDA (2012a) 'PRONAF Eco Dendê. Reunião – Câmara Técnica da Palma de Óleo', powerpoint presentation (www.agricultura.gov.br/arq_editor/file/camaras_setoriais/Palma_de_oleo/7RO/App_Eco_Dende_Palma.pdf, last access: 19 December 2013).
- MDA (2012b) 'Plantação de palma de óleo ganha força no Pará', press release, Brasília (www.biodieselbr.com/noticias/materia-prima/dende/plantacao-palma-forca-para-040612.htm, last access: 28. July 2013).
- Muller, Antonio A., José Furlan Junior and Pedro Celestino Filho (2006) 'A Embrapa Amazônia Oriental e o Agronegócio do Dendê no Pará', factsheet, Belém: EMBRAPA.
- Nahum, João and Tiago Malcher (2012) 'Dinâmicas Territoriais do Espaço Agrário na Amazônia: A Dendeicultura na Microregião de Tomé-Açu (PA)', *Confins* 16, 1–20.
- Nalepa, A.R. and Dana M. Bauer (2012) 'Marginal lands: the role of remote sensing in constructing landscapes for agrofuel development', *The Journal of Peasant Studies* 39 (2), 403–422.
- Negt, Oskar and Alexander Kluge (1983) *Geschichte und Eigensinn. Geschichtliche Organisation der Arbeitsvermögen. Deutschland als Produktions-Öffentlichkeit. Gewalt des Zusammenhangs*, Frankfurt am Main: Zweitausendeins.
- Nepstad, D.C.C., C.A. Pereira and J.M.C. da Silva (1996) 'A comparative study of tree establishment in abandoned pasture and mature forest of eastern Amazonia', *Oikos* 76 (1), 25–39.
- Perelman, Michael (1983) 'Classical political economy and primitive accumulation: the case of Smith and Stuart', *History of Political Economy* 15 (3), 451–494.
- Rodrigues, José G.B. (2009) 'Identificação da Agricultura Familiar: Uma Análise dos Critérios da Declaração de Aptidão ao PRONAF – DAP no Contexto brasileiro e Internacional', Brasília. (www.iica.int/Esp/regiones/sur/brasil/Lists/DocumentosTecnicosAbertos/Attachments/504/Identifica%C3%A7%C3%A3o_da_Agricultura_Familiar_Jose_Germano.pdf, last access: 13 October 2012).
- Schmitz, Heribert (2013) 'Bauern, Landnutzung und Entwicklung in Amazonien: Der Beitrag von Thomas Hurtienne seit 1994', in Backhouse, Maria, Olaf Gerlach, Stefan Kalmring and Andreas Nowak (eds) *Die globale Einhegung – Krise, ursprüngliche Akkumulation und Landnahmen im Kapitalismus*, Münster: Westfälisches Dampfboot, 324–337.
- Silva, Felix L. de, Alfredo K.O. Homma and Heriberto W.A.P. Pena (2011) 'O cultivo de dendezeiro na Amazônia: Promessa de um novo ciclo econômico na região', in *Observatorio de la Economía Latinoamericana. Economía do Brasil* (www.eumed.net/cursecon/ecolat/br/11/shp.html, last access: 3 November 2013).
- Treccani, Girolamo D. (2001) *Violência e grilagem: instrumentos de aquisição da propriedade da terra no Pará*, Belém: UFPA.
- Treccani, Girolamo D. (2013) 'Questões jurídicas', powerpoint presentation, workshop: Os impactos sociais e ambientais dos investimentos em dendê no Pará, 21.10.2013 in Belém.

- USDA (2012) 'Gain report. Brazil. Biofuels annual. Annual report 2012', São Paulo.
- USDA (2013) 'Brazil. Oilseeds and products annual, 2013–14 Record soybean production forecast at 85 mmt', GAIN Report Number: BR0908, São Paulo.
- Vale (2011) 'Vale speeds up investments in biodiesel, press release', Rio de Janeiro. (saladeimprensa.vale.com/en/releases/interna.asp?id=20446, last access: 23 November 2013).
- Vidal, John (2008) 'The great green land grab', *Guardian*. (www.guardian.co.uk/environment/2008/feb/13/conservation, last access: 13 October 2013).
- Watkins, Case (2011) 'Dendezeiro: African oil palm agroecologies in Bahia, Brazil, and implications for development', *Journal of Latin American Geography* 10 (1), 9–33.
- Zeller, Christian (2010) 'Die Natur als Anlagefeld des konzentrierten Finanzkapitals', in Schmieder, Falko (ed.) *Die Krise der Nachhaltigkeit. Zur Kritik der politischen Ökologie*, Frankfurt am Main: Lang, 103–135.