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WHEN LAND BECOMES A GLOBAL FINANCIAL ASSET: THE MATOPIBA CASE IN BRAZIL

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The Network for Social Justice and Human Rights comprises dozens of non-governmental organizations and social movements. It seeks to respond to a demand for action and articulation around human rights violations in Brazil.

“Proponents of digitalization of land administration information and of using blockchain in land transactions emphasize the benefits of these technologies for marginalized people, because of the increased tenure security it supposedly will provide. However, the problem of land tenure insecurity of people living in poverty is less about accurate land information and much more about oppression and power inequalities. The question is, rather: who has access to and control over these technologies and for which purposes?”

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¹ MATOPIBA is the acronym for a land area of 73.173.485 hectares (h) expanding across the Brazilian States of Maranhão, Tocantins, Piauí, and Bahia, located in the northeastern and northern region of the country. The region is covered by savannahs, scrubland and forest (i.e. the Cerrado).

² A biome is a major ecological community of plants and animals, such as a tropical rain forest, grassland, or desert.

³ It is estimated that around 25 million people live in the Cerrado, including 80 indigenous peoples as well as a variety of so-called traditional peoples, to whom Brazilian legislation gives special protection. Rede Social de Justiça e Direitos Humanos. *Imobiliárias agrícolas transnacionais e a especulação com terras na região do MATOPIBA*. 2018. P. 10. Available in Portuguese at: www.social.org.br/images/MATOPIBA.pdf.

How can it be that finance centers in New York or Stockholm exercise control over remote lands in Northeastern Brazil? The process of transforming land into a global financial asset requires not only changes in policies and legislation, but also the use of information technologies. This article sheds light on the role of digital land information in the process of dispossessing rural communities from their land, which is subsequently put under the control of distant global finance actors. It draws on the authors' assessment of the drivers and impacts of agribusiness expansion in the Brazilian region of MATOPIBA,¹ which is part of the *Cerrado*, a biome consisting of savannahs and forests.² The article discusses the challenges posed by information technologies in people's struggles for their right to land and territory and concludes by identifying issues for further research.

ANOTHER BRAZILIAN ECOREGION FALLS PREY TO LAND GRABBING

The *Cerrado* is extremely rich in biodiversity of flora and fauna, and three of the region's most important aquifers can be found there. It has drawn less attention from the media than the Amazon, but it is just as vital for the country's, and planet's ecology. The northern part of the *Cerrado* is a lifeline for the communities living there.³

In the MATOPIBA region, the expansion of industrial agriculture monocultures and land speculation is impairing the realization of the human right to adequate food and nutrition – among other human rights – of traditional communities, including descendants of runaway slaves (*quilombolas*) and indigenous peoples. Extensive research by civil society organizations (CSOs) shows that local people face the consequences of deforestation, widespread contamination of soil, water, and livestock by

agrochemicals, and loss of biodiversity. Additionally, violence against community leaders is on the rise, as are disputes over water, exacerbated by changing rainfall patterns due to eco-destruction.⁴ Lastly, local people in the region are losing their land, leading to the destruction of their livelihood, community disruption, and food and nutrition insecurity. In many cases, they are forced to migrate to shantytowns (*favelas*) of Brazilian cities. Women are particularly affected by the ongoing land grab and eco-destruction, as they can no longer collect and process wild fruits from the *Cerrado* forests, while the presence of armed guards, intimidation, and physical violence, makes it impossible for them to plan a family life.⁵ Quite often, the only jobs available for rural women who have been displaced from their lands are on plantations with degrading conditions, or as house cleaners in urban areas.

GLOBAL FINANCE DRIVES LAND GRABBING IN MATOPIBA

The MATOPIBA region is witnessing the transformation of land into a dematerialized financial asset as a result of the growing power and influence of global finance, and its ways of operating – a process called ‘financialization’. The incursion and expansion of agribusiness into the Brazilian *Cerrado* is closely linked to deregulation of global financial markets and the increasing interest of financial actors (pension funds, investment funds, banks, insurance companies, etc.) in land. The expansion of agro-industrial production since the 1990s in Brazil has been part of an ideological discourse of reduction, which in reality increases the country’s debt because it relies on subsidized credit from the government, not to mention the social and environmental impacts caused by this agricultural system.⁶ Significant state subsidies have led to the expansion of soy and sugar cane monocropping, which in the early 2000s started to penetrate into the northern part of the Brazilian *Cerrado*, especially into the states of Piauí and Tocantins.

Simultaneously, the quest for new areas of investment by global finance led, at the beginning, to a commodity boom, resulting in the speculative increase in the price of soy, sugar, corn, cotton, eucalyptus, and meat, amongst other commodities, further fueling the territorial expansion of monocultures and agribusiness. Between 2000 and 2014, the area planted with soy and sugarcane in the MATOPIBA region increased by 253% and 379% respectively and the area planted with soybeans increased from 1 million to 3.4 million h.⁷ After the crisis of 2007/2008 though, a remarkable development started taking place: while the price of agricultural commodities decreased in international markets, the price of land continued to increase in Brazil. This explains the speculative nature of these land deals. The territorial expansion of monocropping of agricultural commodities (e.g. soy and sugarcane) serves to justify the increase in land prices, and for financial and agribusiness corporations to take control of farmland. Yet their target is land, independently of the production of commodities. More recently, the Brazilian Senate approved a measure that can further expand speculation with farmland by allowing parts of a farm to be negotiated in financial markets as a guarantee to access credit.⁸ Consequently, land itself has increasingly become a target for financial actors and a business in its own right, beyond the financing of agro-industrial production or the trading of commodities. Land prices have kept rising even after the end of the commodity boom in the aftermath of the world financial crisis of 2007/08.⁹

4 Ibid.

5 FIAN International/Rede Social de Justiça e Direitos Humanos/ Comissão Pastoral da Terra. *The Human and Environmental Cost of the Land Business. The Case of MATOPIBA, Brazil*. 2018. Available at: www.fian.org.

6 Pitta, F., and Mendonça M.L. “Especulação com terras agrícolas na região do Matopiba”. In: *Direitos Humanos no Brasil. Relatório da Rede Social de Justiça e Direitos Humanos*. 2017. PP. 55-64. Available in Portuguese at: www.social.org.br/files/pdf/relatorio_dh_2017.pdf.

7 Rede Social de Justiça e Direitos Humanos. *Supra* note 3. P. 26.

8 For more information, please see: Garcia, G. “Senado autoriza uso de parte de imóvel rural como garantia em empréstimo”. *G1 Globo*, June 14, 2017. Available in Portuguese at: g1.globo.com/senado-autoriza-uso-de-par-te-de-imovel-rural.

9 For more information on the 2007/2008 crisis, please see: Murphy, S. and Schiavoni, C. “Ten Years After the World Food Crisis: Taking Up the Challenge of the Right to Food”. *Right to Food and Nutrition Watch* (2017): 16-25. Available at: www.righttofoodandnutrition.org.

- 10 Rede Social de Justiça e Direitos Humanos. *Supra* note 3.
- 11 SLC controls almost halve a million h. of land in Brazil, with some 300,000 h. planted with soy. In 2015, SLC for the first time generated more income through its farmland purchases and sales than via its historic core business with soy. Rede Social de Justiça e Direitos Humanos. *Supra* note 3. P. 38.
- 12 Pitta and Mendonça. *Supra* note 6. PP. 58-59.
- 13 Global assets of pension schemes amount to more than US \$41 trillion, which makes them the heaviest players of the financial industry. Consequently, any movement on their part generates huge waves. The US-based pension fund TIAA has installed two funds (TIAA-CREF Global Agriculture LLC, or TCGA, 1 and 2) to acquire farmland globally. The two funds have collected US \$5 billion from pension schemes around the world, including the Dutch ABP, the second Swedish Pension fund AP2 as well as the German *Ärzteversorgung Westfalen-Lippe (ÄVWL)*. They have acquired 300,000 h. in Brazil, including in the MATOPIBA region. For more information, please visit: www.thinkingaheadinstitute.org/Global-Pension-Asset-Survey-2018.
- 14 Li, T. "What is land? Assembling a resource for global investment". Plenary Lecture for the Transactions of the Institute of British Geographers, 39, 2014. PP. 589-602.
- 15 This collection (and privatization) of data in virtual clouds is underway under the banner of 'digitalization of agriculture', and is led by TNCs such as John Deere, AGCO and CHN. ETC Group. *Software vs. Hardware vs. Nowhere*. 2016. Available at: www.etcgroup.org/content/deere-co-becoming-monsanto-box.
- 16 Real estate is an attractive target of financial actors, making it one of the places where global finance capital materializes. For instance, substantial parts of big cities like London are owned by investment and other funds. Worldwide real estate assets (including agricultural lands) comprise nearly 60% of the value of all global assets and their value is estimated at almost three times the global GDP. Savills. *Around the World in Dollars and Cents*. Savills World Research, 2016. P. 4. Available at: www.savills.co.uk/around-the-world-in-dollars. Rural lands are one of the

Considered as Brazil's 'last agricultural frontier' and a buffer zone to the Amazon, lands in the northern part of the Brazilian *Cerrado* have become a target for land speculation.¹⁰ Some of the companies involved in the land business in the region are still linked to industrial agricultural production. A case in point is the company SLC (Schneider Logemann Company), whose branch SLC Agrícola is one of the biggest Brazilian soy producers, while the branch SLC Land Co. has become a big player in the land business.¹¹ Other companies are no longer directly linked to production and fully concentrate on acquiring, selling, leasing and/or managing land.¹² One example is the company Radar Imobiliária Agrícola S/A, which was created through a joint venture between the US-pension fund TIAA and Brazil's largest sugar producing company, Cosan. Radar's objective is to obtain capitalized income from land – i.e. to acquire lands at low price – establish farms on that land and then sell it, often in speculative transactions. More importantly, the actors that are operating on the ground are backed by international financial actors that channel huge amounts of capital into the land business. They thus fuel the ongoing speculation, aiming to extract substantive wealth from the region. In the case of MATOPIBA, pension funds from the USA and Europe are big players.¹³ These funds directly profit from climbing land prices, as this increases the value of their farms and their portfolios.

FINANCIALIZATION AND DIGITALIZATION

Financialization in general, and the financialization of land in particular, is linked in several ways to digitalization – i.e. the integration of digital technologies, based on the process of converting information into a digital format, also called 'digitization'. Firstly, the exponential growth of global finance over the last thirty years has only been possible because of information technology. Secondly, technical tools such as statistics, calculations on land use and productivity based on satellite images etc. have been used to transform land into an 'investible' resource, and to map those areas that are – supposedly – available for global investment.¹⁴ Although these lands have been home to hundreds of local rural communities for centuries, they are presented from a typical neocolonial perspective as 'underutilized' or 'idle'. Thirdly, information technology is key in bringing land to the global financial market places.

In this context, it is important to distinguish two key aspects of the digitalization of land: on the one hand, the collection of very location-specific land-related data (such as soil quality, production outputs, water access, land price developments, etc.),¹⁵ and on the other hand the digitalization of land administration data, in particular cadastral data. The first makes this information available for financial brokers anywhere in the world who want to operate in land markets, while the second (potentially) allows for land transactions in the virtual sphere. As such, the digitalization of land is an important part of the creation of a global real estate market.¹⁶

Currently, several efforts are underway to apply the blockchain technology to land. Blockchain is the technology underlying cryptocurrencies like Bitcoin and is commonly described as an open, distributed/decentralized ledger that can record information and transactions between two parties "in a verifiable and permanent way".¹⁷ Pilot experiences are being carried out in different countries in all parts of the world, including Brazil.¹⁸ The blockchain allows to store land administration data, but also to carry out transactions through so-called 'smart contracts', which happen in a largely automatized and self-enforcing way. While the broad application of these technologies to land may still take some time, the digitalization of land ad-

ministration data is advancing, and in some countries land transactions are already increasingly automatized.¹⁹ Discussions around the use of blockchain for real estate and land also refer to the possibility of ‘fractional ownership’, i.e. the possibility for several actors to acquire shares of a piece of land. This implies that a given plot is divided into ‘conceptual shares’, a good illustration of how digitalization allows for a growing dematerialization of land.

The digitalization of land and the use of blockchain in particular are promoted with the promise of additional transparency, efficiency, security and protection against fraud and corruption (especially due to the decentralized character of the blockchain). The related narratives strongly focus on inefficient states and administrations, conveying the message that private actors will be much more efficient when taking over the job of land administration in a decentralized way and without interference from public authorities.²⁰

HUMAN RIGHTS IMPLICATIONS AND THE WAY FORWARD

Proponents of digitalization of land administration information and of using blockchain in land transactions emphasize the benefits of these technologies for marginalized people, because of the increased tenure security it supposedly will provide. However, the problem of land tenure insecurity of people living in poverty is less about accurate land information and much more about oppression and power inequalities. The question is, rather: who has access to and control over these technologies and for which purposes? In the case of MATOPIBA, for instance, affected communities have tried to register their lands in the Rural Environmental Registry (*Cadastro Ambiental Rural*, CAR) – an open online system based on GPS data – as part of their struggle to defend themselves against land grabbing. These communities then found out that their lands had already been registered by agribusiness companies.

The emerging issue is, therefore, how to ensure human rights accountability in the general context of digitalized land and environmental information. New devices and technologies are not deployed in a vacuum, nor is their use as clean and tidy as their technological nature pretends to suggest. Land is per se a material and a highly illiquid/immobile good. Despite all the digital developments, land will necessarily keep its very material and local character, meaning that the people who live on the land and off it, will be affected by transactions on global markets, even when these seem to happen in a purely digital sphere. In a way, the violence against local people, such as in the case of MATOPIBA, can be understood as the expression of the ‘violence’ required to transform land into a dematerialized asset using information technologies. In addition, land is a highly contested good. Thus today, users of these technologies – including governments – have to assess whether they are helping land grabbers to make legible non-formalized landed relationships and/or to re-write them to the detriment of marginalized and oppressed rural communities, or not.

At the same time, rural communities and their organizations in different parts of the world have been using tools like digital satellite images to defend their territories and better monitor the impacts of land grabbers’ operations,²¹ for instance with regards to the destruction of forests.²² In any case, the obstacles for having physical and economic access to these technologies remain an issue of concern for vulnerable rural communities, and a key challenge to making them work in defense of their land rights. On the other hand, the very issue of whether formalization of

attractive options presented to investors, based on the prospect of “growing global food and energy needs”. Ibid. P. 34.

17 Iansiti, M. and Lakhani, K. R. “The Truth About Blockchain”. *Harvard Business Review* (2017). Available at: hbr.org/2017/01/the-truth-about-blockchain.

18 For more information, please visit: bravenewcoin.com/news/brasil-pilots-bitcoin-solution-for-real-estate-registration. Other pilot experiences are being carried out in Georgia, Ukraine, Sweden, India, Australia, Dubai, Honduras, USA and Ghana. Graglia, J.M., Mellon, C. “Blockchain and Property in 2018: at the end of the beginning”. Paper presented at the Annual World Bank Conference on Land and Poverty, 2018. Available at: www.conftool.com/landandpoverty2018/index.php/02-11-Graglia-864_paper.pdf?page=downloadPaper&filename=02-11-Graglia-864_paper.pdf&form_id=864&form_version=final.

19 In the Netherlands, for instance, “the Real Estate property market is completely digitized” and “about 45% of all notarial deeds are processed completely automatically, without any human interference”. Vos, J. “What Should We (Not) Do With Land Administration Data? The Risk of Privatization of Land Administration And Blockchain’s Code As Law”. Paper presented at the Annual World Bank Conference on Land and Poverty, 2018. PP. 20-21.

20 On the contrary, the example of TIAA illustrates a lack of transparency and accountability, particularly to its own clients, thus contradicting the idea that private actors are more efficient. FIAN International/Rede Social de Justiça e Direitos Humanos/Comissão Pastoral da Terra. *Su- pra* note 5.

21 Guajajara indigenous women struggle to protect their territories, using drones as part of their strategy. Lazzeri, T. “Guerreiras da Floresta enfrentam madeireiros em defesa de terra indígena”. Reporter Brasil, March 08, 2018. Available in Portuguese at: reporterbrasil.org.br/2018/03/desmatamento-indigena-guerreiras-da-floresta-enfrentam-madeireiros-maranhao/.

22 For more information, please visit: www.globalforestwatch.org/.

landed relationships in new digital clothes is, above all, instrumental to the further commodification of land and nature (or not) will probably be hotly debated in the near future. For social movements and civil society organizations it remains crucial to understand if and how information technologies can become useful for people's struggles, and for the realization of rural communities' rights.

In this context, the struggle for a human right to land remains paramount, for it asserts that land is first and foremost a common good which communities and people access, control, manage and use in many different forms, in order to live a dignified life, according to their social and cultural context. As such, it recognizes, protects and guarantees a variety of tenure systems and tenure rights, seeking to democratize them wherever they are discriminatory. Moreover, it challenges the national and international policy and legal regimes, which are intending to transform land into a dematerialized commodity.²³

23 FIAN International. "The Human Right to Land". *Position Paper* (2017). Available at: www.fian.org.



IN BRIEF

How can it be that finance centers in New York or Stockholm exercise control over remote lands in Northeastern Brazil? The process of transforming land into a global financial asset requires not only complex changes in policies and legislation, but also the use of information technologies. This article sheds light on the role of digital land information in the process of dispossessing rural communities from their land, which is subsequently put under the control of distant global finance actors. It draws on the authors' assessment of the drivers and impacts of agribusiness expansion in the Brazilian *Cerrado*, a biome consisting of savannahs and forests in the northeastern and northern region of Brazil, known by its acronym MATOPIBA. The article discusses the challenges posed by information technologies in people's struggles for their right to land and territory and concludes by identifying issues for further research.



KEY CONCEPTS

- Financialization of land is the growing power and influence of global finance actors - such as pension funds, investment companies, fund managers, finance institutions and the mega rich, over land: who uses it, for what purposes and with which benefits.
- Information technology (IT) is the use of computers to store, retrieve, transmit, and manipulate data, or information, often in the context of a business or other enterprise.
- Digitalization is the integration of digital technologies, based on the process of converting information into a digital format



KEY WORDS

- Financialization and digitalization of land