Alternatives to urban development? Conducting counter-cartography of traditional peoples' territories in times of COVID-19

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Introduction

In Brazil, traditional peoples' territories are dramatically reshaped by deforestation, mining, agribusiness, extractivism, and infrastructure development, leading to displacement and rural-to-urban migration. Traditional peoples, however, are not passive victims but actively challenge displacement and advocate for alternatives to urban development. In this paper, we introduce a novel research initiative that commenced in spring 2020 and aims to compare how traditional peoples shape, imagine and collaboratively manage their territories and contribute to processes of differential urbanisation. Conceptually, we draw on insights from scholarship on extended urbanisation (Monte-Mor 2005), intersectionality (Olsen 2018), territory as social relation (Fernandes 2005), and Latin American decolonial theory (Escobar 2020; Rivera 2010). Methodologically, we focus on six illustrative case studies situated in distinct urban areas affected by concentrated and extended urbanisation in the Brazilian states of Para and Minas Gerais. We deploy an innovative counter-cartography method to visibilise traditional people's representations of territory and related alternatives to urban development. This brief paper focuses in particular on the challenges and opportunities of adjusting a collaborative counter-cartography approach to the COVID-19 crisis in Brazil, which further amplifies conflicts and resistance struggles on traditional peoples territories. In doing so, we hope to contribute to interdisciplinary dialogues that guide this virtual seminar.

Our case studies

In our project, we follow a comparative research approach that draws on and makes connections between the following six case studies (see figure 1):
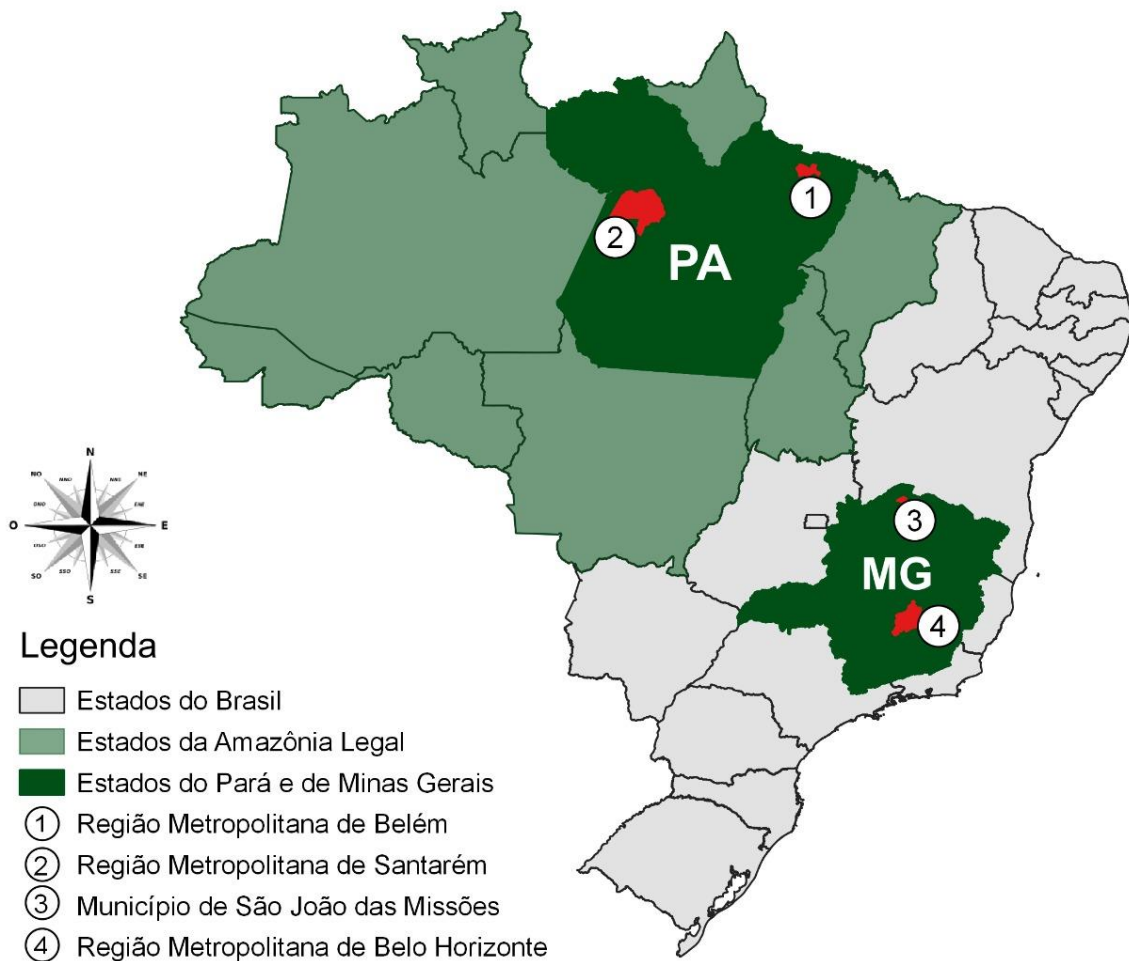
Figure 1 - *Location of States of Pará and Minas Gerais in Brazil, and of municipalities where case study areas are placed.*

Para

(1) Informal settlements situated near the city centre of Belém consolidated on former waterlogged areas that resemble the last stage of a land occupation process by traditional people (see number 2, figure 1). These settlements cross overtime cycles of densification and degradation of ecosystems, and once completely transformed were amalgamated to the city as "second class neighbourhoods", though increasingly experience gentrification due to their privileged location within the city.

(2) The quilombola community Abacatal in peri-urban Belem (see number 3, figure 2) affected by displacement threats due to mining, metropolitan rubbish disposal, construction of popular housing, and efforts to transform the area into an urban expansion zone.

(3) The islands of Mosqueiro (containing a settlement of landless traditional peoples) (see numbers 4, 5 and 6, figure 2) and Island of Maracuja (home to riberinhos/ quilombolas) (see number 1, figure 1) situated in the rural area of Belem and affected by real estate investment and tourism development.

(4) Santarém metropolitan region, containing a mosaic of protected areas including indigenous land (see number 2, figure 3) and traditional people' extractivist settlements (see number 1, figure 2)

that are under pressure of conversion into agribusiness and urban land. Even though Santarém's urbanisation is dispersed and has potential to include forest and biodiversity, it tends to reproduce similar pattern followed by Belém and other medium-sized Amazonian cities.
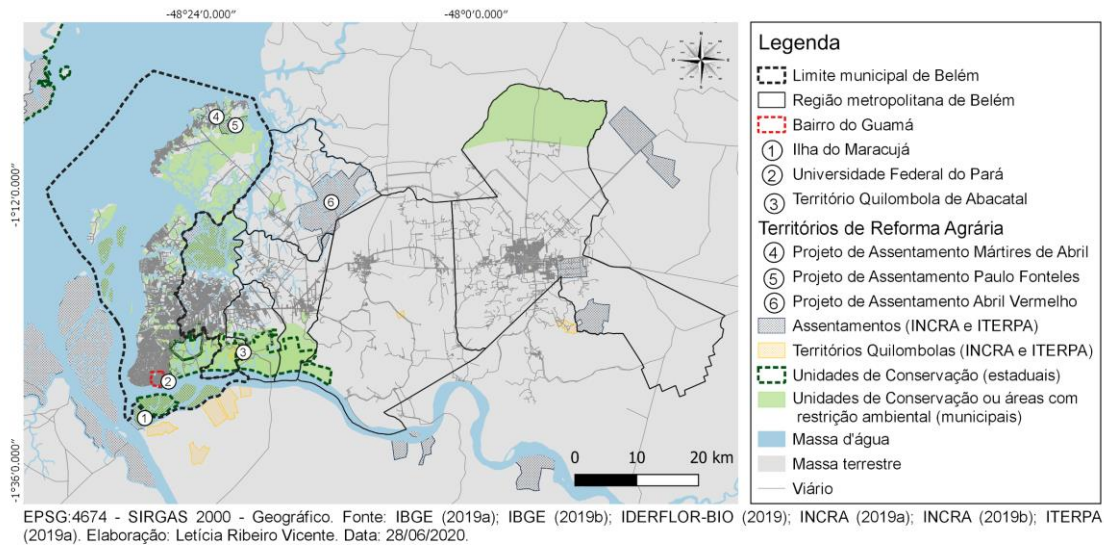
Figure 2: *Traditional peoples' territories in metropolitan Belém*
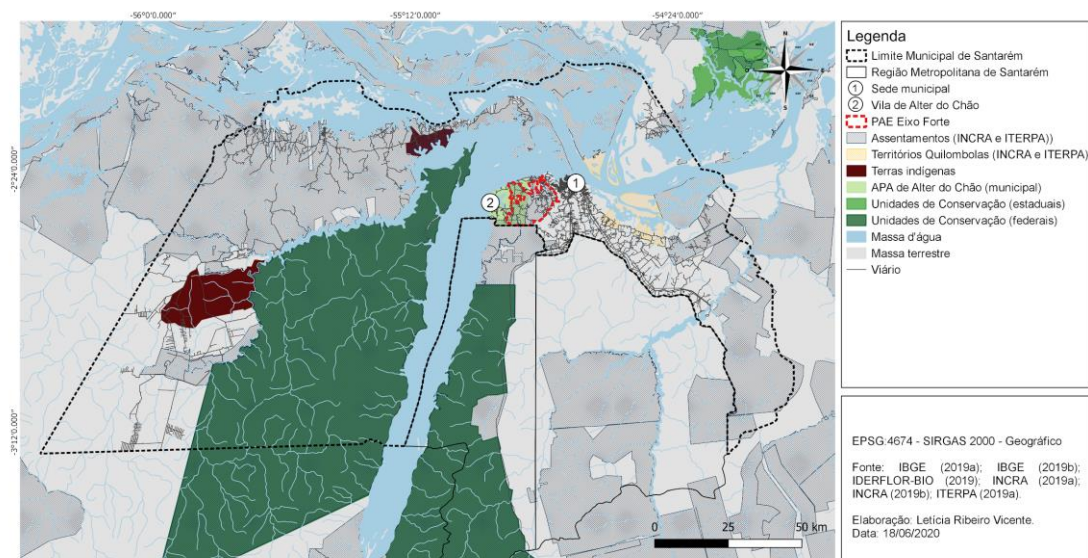
Figure 3: *Traditional peoples' territories in the metropolitan region of Santarem*

Minas Gerais

(5) Indigenous 'Pataxo' peoples living and working in the metropolitan region of Belo Horizonte (see figure 4). In October 2017, this indigenous group began a land occupation process of a forest area located in metropolitan Belo Horizonte to create the community Naô Xohã. They reclaim land belonging to a mining company that was recently hit by the rupture of a tailings dam. In addition to struggles around land and access to services, this environmental disaster complicates water access for resident indigenous peoples.

(6) Xakriaba situated in northern Minas Gerais represents an example of a counter-case of a territory less affected by displacement threats and allows for an investigation of how traditional peoples maintain and revitalise their identity and alternative ways of producing territory. UFMG has a

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longstanding teaching and research partnership with traditional peoples in this area, some representing students and academic staff.
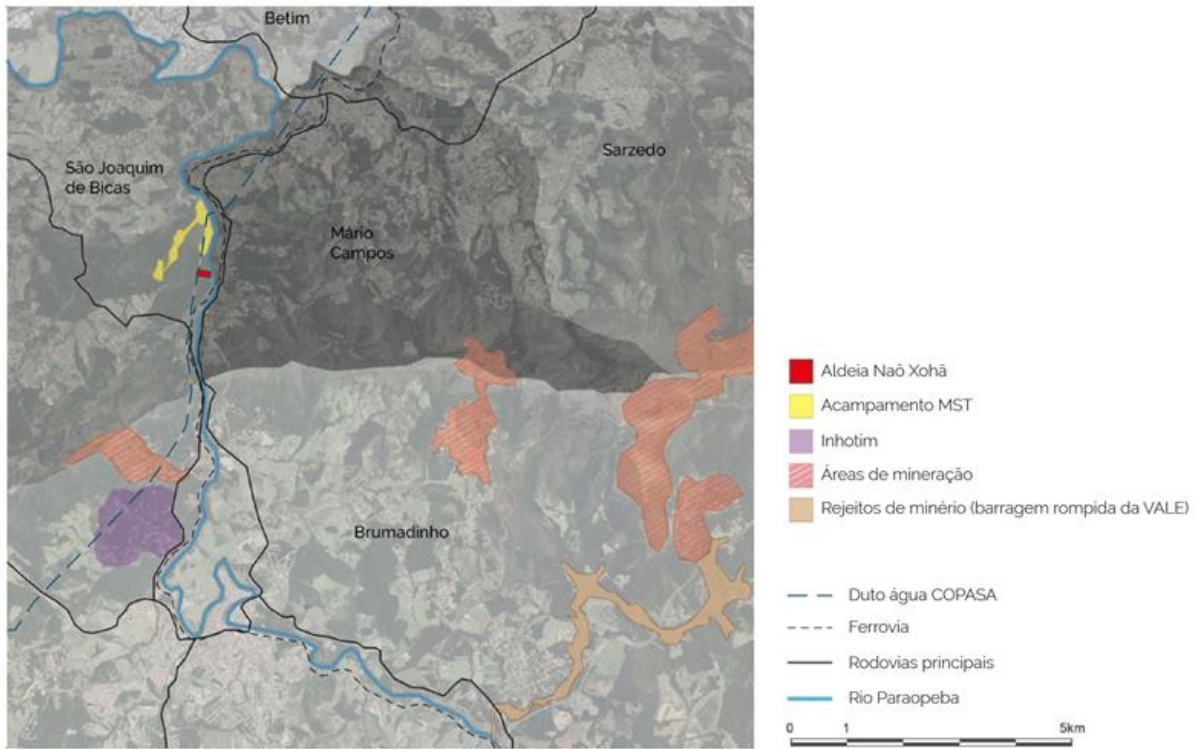
MAPA 4 Contexto regional e inserção da aldeia Naô Xohã sobre foto aérea do Google Earth de abril de 2019. Fonte: Thiago Campos.

Figure 4: *Naô Xohã territory within metropolitan Belo Horizonte*
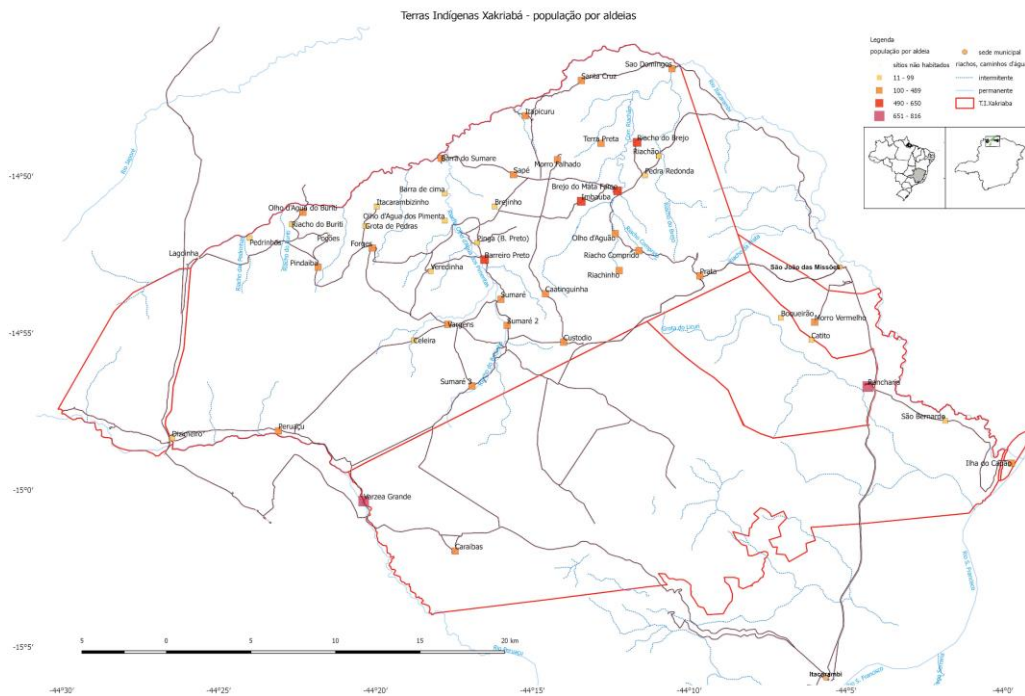
Figure 5: *The Xakriaba territory in Minas Gerais*

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Methodological approach and principles for territorial knowledge co-production

We aim to co-produce a set of innovative countercartographies to analyse, understand and visibilise urbanisation processes occurring on traditional people's territories as well as distinct representations of space and related urban interventions and alternatives emerging from these territories. Work on counter-cartography starts with the following assumption: Conventional cartography is a tool of state power and an essential tool in the colonial conquest and imposition of capitalist property relations, relying on the Western "scientific authority of its expertise, backed by the state's capacity to use force to impose violently the map's borders and property lines on the Earth's surface" (Mason-Deese 2020: 423). When understood through such a perspective, cartography historically served and often still serves the role of colonising, displacing and expropriating, with "more indigenous deaths (…) claimed by maps than by guns" (Nietschmann 1995: 37). If cartography represents a tool of state power, then maps are also implicated in struggles over power. While work on counter-cartography works from this insight, it also acknowledges that official maps are being constantly challenged and that actors without state power are engaged in making their own maps to make sense of their world, to resist the state, and to create alternative realities.

As part of our project we seek to bring into the spotlight alternative representations of traditional peoples. This requires flexibility in terms of process and methods leading to a set of counter-cartographies, as these need to be co-produced with traditional peoples according to their interests, needs and priorities. To achieve this, we follow Freire who highlights the need to "to use research methods that involve people living in the research area as researchers. They need to take part in the investigations of themselves and not just serve as passive objects of study" (1982, p. X). In the remainder of the paper, we reflect on initial lessons from implementing such a research process, paying attention particularly to conditions that we face in the "new world" of Covid-19.

Initial lessons from our research

Action research and territorial management under COVID-19: The Xakriaba case

The COVID-19 pandemic led to a change in priorities in traditional communities who often lack adequate healthcare facilities and pandemic monitoring systems. As this research seeks to promote alternatives that address the priorities of traditional peoples, our UFMG research group worked in an intercultural collaborative network with indigenous peoples to develop a Xakriabá Community Monitoring scheme. This action, which was emergently created to deal with the advances of the COVID-19 pandemic in Brazil, has as its central objective to work in the production and application of data collection tools and in the forwarding and analysis of information on the flow of people who enter and exit the Xakriabá indigenous territory. As such, we seek to collaborate in tracking possible routes of contagion and facilitate decision-making within the local health system that is managed by local leaders and indigenous families.

The monitoring methodology, developed in a collaborative, remote and virtual way, has been divided into three distinct activities: a) Data collection undertaken by indigenous collaborators, with the production and use of physical tools [community sign in forms for people who leave/ enter the territory] to record territorial movements at six sanitary barriers; b) Systematization and data processing undertaken by UFMG research team and indigenous collaborators, which first required the electronic transmission and organization of data in a cloud platform followed by the production of spreadsheets for tabulation to consolidate the collected data; and c) Analysis and use of data for the production of reports on community health, social distancing and movement in/ out of the territory which was shared with the Xakriabá health and leadership centres.

Figure 6: *Images illustrating the Xakriabá Community Monitoring scheme (by Edgar Kanaykõ Xakriabá*

The collaborative action research showed that, unlike a short-term emergency action, pandemic monitoring should be thought and conducted as medium to long-term activity. The duration of the risks and limitations inflicted by the pandemic would be longer than a few months as initially thought because of possible successive waves of contamination; and because of other threats to the Xakriabá's territorial integrity and security caused by the contemporary political situation regarding indigenous peoples in Brazil. This means that we expect that the Xakriabá have to be ready to reactivate the monitoring actions in the case of new emergencies of any kind. The data produced by the first phase of collection, in the form of a census, produced a lot of information about communities everyday life and their territorial integration with the surrounding urban environment. We intend to analyse and explore this data in a more qualified way for an extended period, addressing the analysis to the proposal of a counter-cartography perspective.

The local work dynamics of the first phase were very intense. There was great community involvement on a voluntary basis in the actions of the production of primary data [data collection, typing and organization]. A large volume of data has been produced at this stage. In June 2020 alone, 20,645 records of entry and exit flow of people were produced through the six barriers defined for work, five in the Xakriabá Indigenous Land – TIX (Terra Indígena Xakriabá) and one in the Xakriabá Indigenous Land of Rancharia (Terra Indígena Xakriabá da Rancharia)[1].

So far, we have made decisive and very visible advances, with different collaborators highlighting slightly distinct benefits. From the point of view of the UFMG research team, these advances can be identified in three different areas:

- **Operational progress**: create and put into action a monitoring system within Xakriabá indigenous territories. Because the agent of contamination in the case of COVID are people (different

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[1] The Xakriabá Indigenous Land of Rancharia is not contiguous to the Xakriabá Indigenous Land. These are different indigenous territories approved at different times and which present distinctions with regard to spatial and socio-community issues.

from other diseases when agents can represent insects, or even water flux), controlling the flow of people becomes crucial. But this same flow of people is caused by everyday life motivations or, in other words, by the dynamics of providing services and goods which are deeply entangled in the relations among the different communities in the TIX and the cities surrounding the territory.

- **Progress in data production**: A side effect of this emergency research support is that it visibilises intra- and inter-territorial movements (eg rural-urban interactions) which were unknown to local residents and the research team, providing information to develop a database and cartographic visualisation of territorial mobility and rural-urban interactions, offering the potential to conceptualise extended urbanisation processes through an indigenous perspective. Furthermore, it provides information on which external actors enter and leave the territory, offering the potential for a reporting system on additional territorial threats (eg logging, land grabbing) that are common in the current Brazilian political context. As such, then, this collaborative action research approach can generate data rich information about displacement trends, threats to territorial integrity, multi-locality of local residents, transport and people flows, and wider demographic information about the periodicity of displacements, creating ample possibilities for understanding the logic of mobility and the configuration of and contestations occurring within indigenous territories in the region.

- **Advancement in tool production:** The collaborative research process led to the design of a domestic monitoring system (drawing on simple tools such as physical sign in forms, spreadsheets and storage systems using shared cloud drives), which can be managed by ordinary indigenous residents and does not require specific IT or technical knowhow. We currently use this as a basis to develop a mobile App that would allow us to collect and process data digitally, allowing for more rapid data sharing and communication between indigenous collaborators and researchers situated outside the territory.

From the point of view of the Xakriabá, as expressed in an evaluation meeting with the team in August 2020, the main advance was that for the first time they managed to exercise an **effective action of territorial community management**, allowing them to monitor who enters and leaves the territory and creating new knowledge on territorial movement, circulation, displacement threats and rural-urban flows. This action happened collectively and involved people from different villages, gender and ages, as well as professional figures and students. Although some community members had some previous perception about the motivations and movements between Xakriabá villages and outside cities, no one was aware of the real dimension and about differences among the villages.

Mobilising community researchers in the Para cases

The Pará cases bring together traditional communities living in metropolitan Amazonian environments or in territories affected by extended urbanisation. Such communities depend on access to land and clean water and have always had a strong relationship with biodiversity. However, in a context where other stakeholders seek to gain control over their land for purposes of urban development, traditional peoples are subject to various territorial pressures and remain underrepresented in processes of spatial planning and urban governance. In this research, we depart from the assumption that traditional communities resist against such pressures through (1) the multifunctional use and collective appropriation of territory in (peri-)urban spaces (as is the case for quilombo communities [Abacatal and Island of Maracuja], and of settlements in Island of Mosqueiro and in Santarém) or (2) the establishment of autonomous spaces where they practice their own forms of social organization and community governance (as is the case of for indigenous students living in the neighbourhood of Guamá who study at the Federal University of Pará, or the indigenous [Borari] inhabitants of Alter do Chão Village in Santarém).

In (peri-)urban areas, food production (eg through permaculture or urban agriculture) is the main interface between traditional communities and other urban residents, and this practice provides an

example for how these communities preserve natural resources in urban habitats and provide important socio-environmental services, though this is hardly considered by relevant stakeholders involved in urban governance and planning. A key reason for this lacuna is that traditional peoples are generally not associated with urban life, let alone policy and planning practice, in Brazil. Instead, indigenous migration towards the city is associated with a loss of indigenous identity and a denial of specific indigenous rights granted by the state. Our research seeks to challenge such assumptions.

For example, by drawing on the case of indigenous students in Guama district in Belem, we discuss an emerging articulation of urban indigeneity that links to recent federal policy incentives around access to university education for indigenous villagers. Following such legal incentives, indigenous youth increasingly move to the city, and little by little, they start organising themselves within their new urban habitats and making connections with other urban indigenous and non-indigenous residents. This research seeks to learn from this and other groups of traditional peoples about their socio-territorial and environmental practices and different ways to inhabit and claim urban territories. Recognising their particular contribution towards environmental regeneration, the research explores the potential traditional peoples offer for the formulation of policies that guide a sustainable urban transition.

Considering the limitations of social isolation imposed by the Covid 19 pandemic, we had to reconfigure our collaborative research approach. This did not mean that we had to depart to engage with different traditional communities but social distancing regulations simply changed our approach towards engagement. We decided to form a collaborative (and virtually operating) research team whereby students – who belong to the distinct traditional communities – work as community interlocutors and interact with academics (and also their "teachers" at university), setting research priorities that meet their needs. This led to the composition of a dialectic between communities/ students (the researched) and academics (the outsider/ teacher), allowing access to traditional communities and knowledge, in a non-hierarchical way, and on the other hand making community representatives agents of knowledge production and researchers of themselves, as recommended by Paulo Freire (1982) for a liberating education.

The entire process of recruiting, training and working as a team was carried out remotely, using the Google Meet virtual platform, and resources available for registering people's location within their territories via Whatsapp (as shown in figure 7). In case students did not own a smartphone or tablet, we used project resources (otherwise planned for travel/ on-site fieldwork) to purchase such gadgets. Our student collaborators gathered photos and community testimonies (through text, voice or video messages) and located these geographically through WhatsApp. As a team we produced a preliminary cartography that connected official geo-spatial data with information generated and geo-referenced as part of the virtual fieldwork, allowing for a representation of distinct territorial uses, internal community dynamics and relationships between traditional communities and the social, political, economic and spatial dynamics of the metropolitan regions.
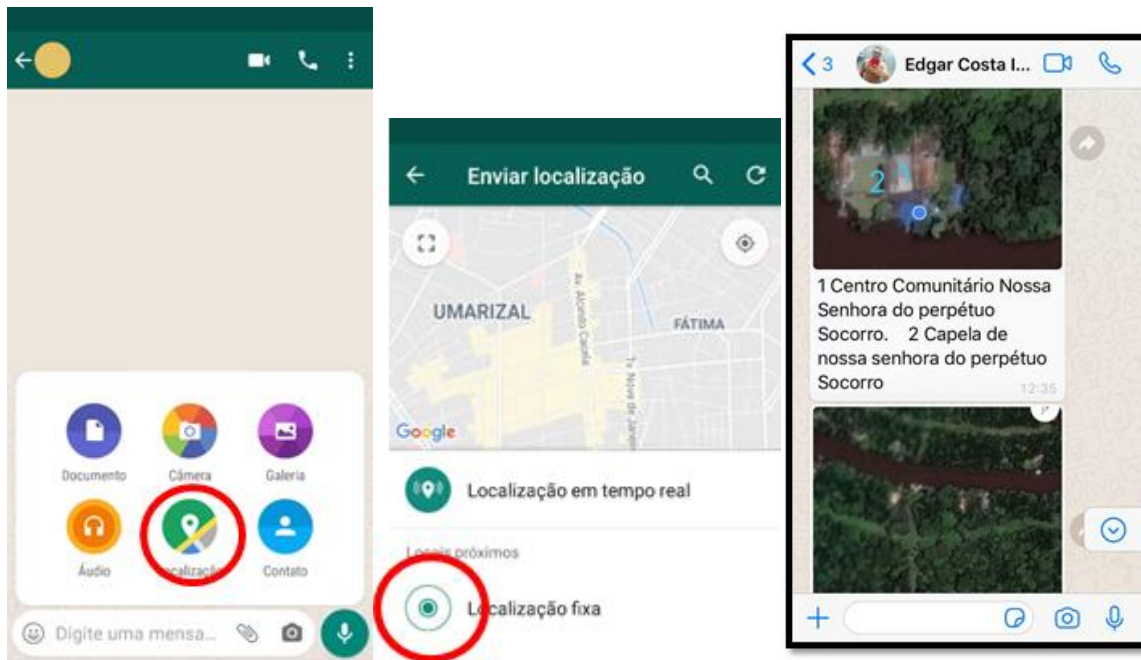
Figure 7: *Screen shots from a mobile phone to show communication among the student who lives in the Island of Maracujá (Belém) - called Edigar, and the student in charge of mapping - called Leticia, who lives several kilometers away. Shared locations of relevant buildings were spotted on google maps satellite images.*

This was a collective methodological endeavour which developed on a step-by-step basis and was mainly based on listening and making use of the students' indigenous knowledge (Ocaña and Lopez, 2019), as well as the accumulation of academic literature on the case study settings. Based upon the initial work of our students we developed six categories for subsequent virtual data collection: territory, land use, types of economic practices, forms of social organization, urban-rural connections and spatiality. After the generation of the first cartographies (see figure 8 for an example), interviews were initiated, carried out by students with their neighbours, or members of their communities. The fact that they belong to the communities is strategic to overcome the limitations imposed by the risk of contagion, since they are isolated in their communities or have the facility to negotiate contact by phone, in person or via Whatsapp.
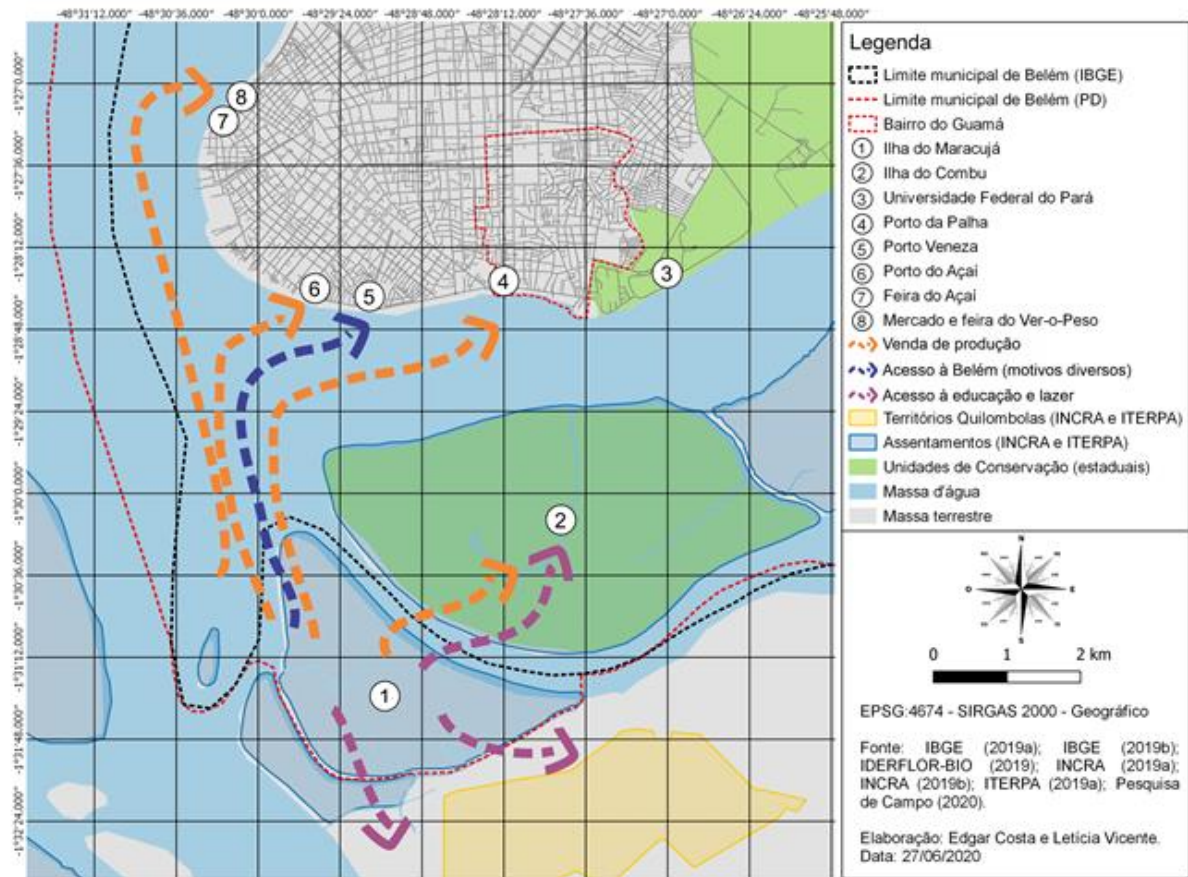
Figure 8: *Movement from Island of Maracuja (1), to Island of Combu (2) and to Belém's popular ports and open market. A co-production of Edgar Costa and Letícia Vicente (2020).*

The implementation of such an interview approach was novel for us and generated an interesting learning process for student and academic collaborators. Most interviews did not take place face-to-face but were conducted as often very long exchanges of audios via Whatsapp, allowing respondents to prepare their thoughts in their own time. As part of this work, we have opened a new set of refined themes and diverted the focus from the selected categories, and as a result, we have reorganized our research along the following theoretical axes: 1) territory, to understand the social relations established within communities and with the external environment, considering the displacements motivated by work or exchange and commercialization, 2) identity, to understand how identity recognition occurs, which may (or may not) generate community cohesion and helps to frame territorial struggles, 3) intersectionality, to unveil the coalitions formed to generate oppression and identify powerful stakeholders (within/ outside the communities) who shape territorial transformation processes.

Our findings also suggest that distinct articulations of religious affiliation, spirituality and ancestral values are of crucial importance to understand territorial struggles as they shape the worldviews of residents in each case study as well as interactions between student and academic collaborators. The entry of Pentecostal churches into territories where Catholic churches and religions of African origin used to coexist has particularly generated new processes of exclusion, and has caused changes in values regarding the collective approach to community affairs related to topics such as land grabbing, natural resource management, and pressure from external agents. We are aiming to further explore this line of research in the next stages of our virtual fieldwork.

As the student collaborators started to study their own territories, they reported an increased perception of territorial challenges within their communities. They also engaged in a process of theoretical maturation, within the relational process of interaction with the interviewees, observation, and information from the academic literature. To overcome researcher isolation and generate dialogue between collaborators for the purpose of inter-territorial learning, two murals were shared with the team on the padlet.com platform; on one wall student collaborators share their observations about their own evolution in the course of the research, such as a field diary, which can be commented on by everyone in the team of collaborators, and on another wall student collaborators are invited to record notes about the interviews and their field impressions (to record observations when they walked through their communities in person) (see figure 9).
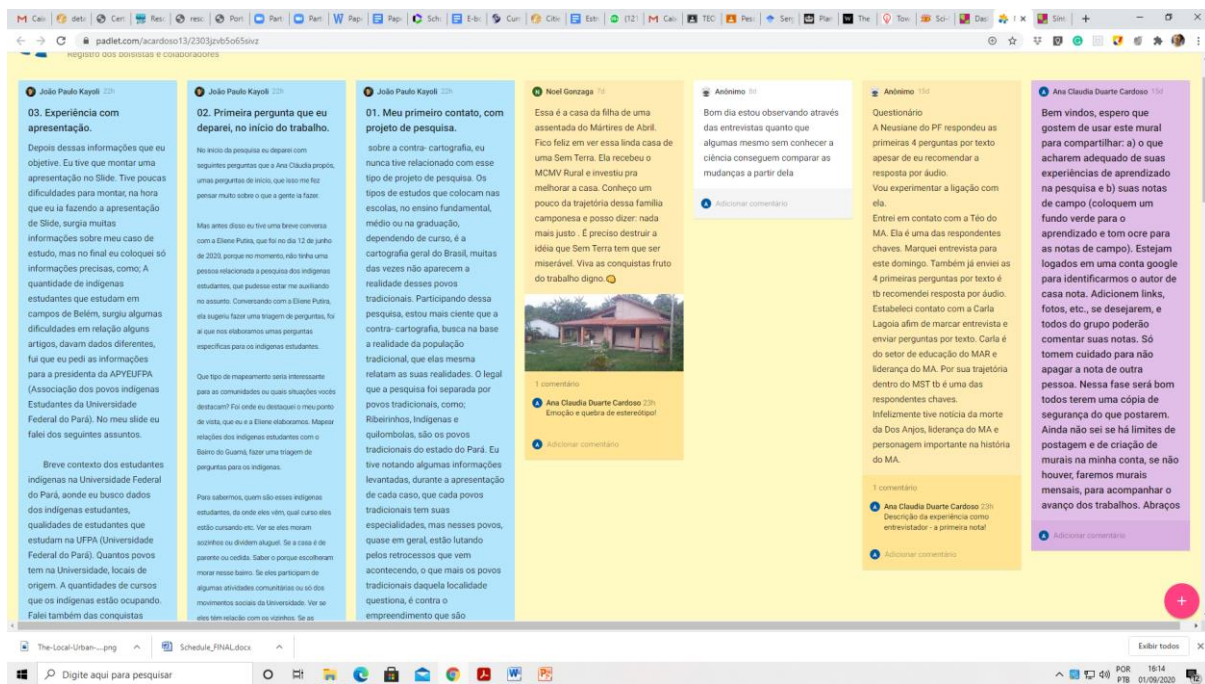
Figure 9: *Print screen of the file created in the app Padlet.com, used for notes sharing. This tool allows the inclusion of photos and comments from team members, as an open field diary.*

We decided to run weekly joint reflection and feedback sessions, alternating between training (eg. discussion of concepts – a emerging in the literature and in the everyday life of our community collaborators/ related literature – and analysis of findings) and exchanges of experiences. Through these sessions we seek to value the knowledge brought by students about their communities, as well as to promote attentive reflection on their own practices and beliefs. After the completion of interviews, new cartographies will be generated in which we will depict domains of daily life and rural-urban flows and relationships, in order to: a) visibilise the intensity of external and internal threats, generated by coalitions of power used for oppression and territorial displacement; b) present the best potential for coexistence agreements between traditional peoples and other social actors operating on their territories, as well as other alternatives emerging from within these communities to foster more sustainable human-environment relations.

In short, then, challenges imposed by pandemics were creatively overcome, to the extent that sharing virtual tools were best incorporated, and that conversation and reflection were placed side by side, using regular meetings to track the process and co-creation of methodological steps as a rule of thumb.

Concluding thoughts

With the emergence of the pandemic, universities in Brazil and the UK issued rapid COVID-19 responses, outlining fieldwork restrictions that make face-to-face research almost impossible. Participatory and co-productive research endeavours (such as ours) which focus on processes and human interactions occurring within specific territories, and hence rely on being on site and on face-to-face contact and collaboration, were significantly hit. Yet, at the same time, engaged research on traditional people's territorial struggles remained just as, or perhaps became even more, important as the pandemic unfolded, especially in political environments such as Brazil which are hostile towards traditional peoples.

In this brief paper, we wanted to showcase some examples of how to continue collaborative research with traditional peoples in times of social distancing. Despite initial logistical challenges, this new mode of conducting research came with the key advantage that control of the research process was handed over mainly to our community collaborators who operated from their territories, contributing to our objective to equalise power relationships and to conduct research activities that respond to local interests and needs. At the same time, though, working remotely also brings new challenges and raises important ethical questions. For example, shifts to operating virtually can generate technical frustrations (especially in territories where internet connections are weak) and the reliance on community interlocutors (who are rewarded for the time they dedicate to the research process) might reinforce inequalities and uneven power relations within communities. So far, our team has addressed discussed risks and challenges in collective reflective discussions via Whatsapp, Google Meets and Padlet, allowing for the development of contextualised solutions around topics such as digital exclusion, researcher safety and community relations. This project is still in its early stages and, so far, feedback from community representatives seems positive. We will refine our methodological approach as it unfolds and look forward to sharing further insights with researchers and activists engaging in similar endeavours in other contexts.

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