

São Luiz do Paraitinga and Catuçaba, Brazil: From land degradation and disaster to community conservation and development

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Key Messages

- Severe land degradation and environmental disasters can act as triggers to new community conservation and development initiatives and as stimulus to existing ones.
 - Bridging organizations can foster community initiatives through projects addressing environmental conservation and restoration in parallel to local capacity building and community development.
 - Cultural identity plays a central role in engaging communities in projects of nature conservation.
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Community Profile

São Luiz do Paraitinga (hereafter São Luiz) is a municipality with about 10,000 inhabitants, located in Eastern São Paulo State of Brazil, near the Atlantic coast (Figure 1). The municipality is situated within the Paraíba Valley, which links the two largest metropolitan areas in Brazil (São Paulo and Rio de Janeiro). Out of the ~730 km² of the municipality's area, 10% are encompassed by Serra do Mar State Park, a protected area, and 13% are in its buffer zone. The main land uses/cover are pasture (53%) and fragmented forests (37%), while cattle breeding for dairy, forestry and agriculture are the main economic activities (Akarui, 2017). The municipality is also embedded in the Atlantic Forest biome – a hotspot for biodiversity conservation, i.e. one of the highly threatened biomes in the world (Myers, 2000).

The landscape of São Luiz has been shaped by specific material and immaterial cultural features that were strongly influenced by coffee plantations from the early 20th century and by the *Caipira* way of life, a local designation to a rural livelihood which involves typical food, music, tales, dances and festivities (see Figure 2).

The city's architectural ensemble is the largest historical collection of the State's architectural heritage, and its population proudly keeps alive several displays of immaterial culture (Moraes, 2019). The local economy currently depends on public services, and the Human Development Index (HDI = 0.690) is among the lowest in the State's municipalities. In this context, cultural tourism and ecotourism are promising alternatives for economic development.

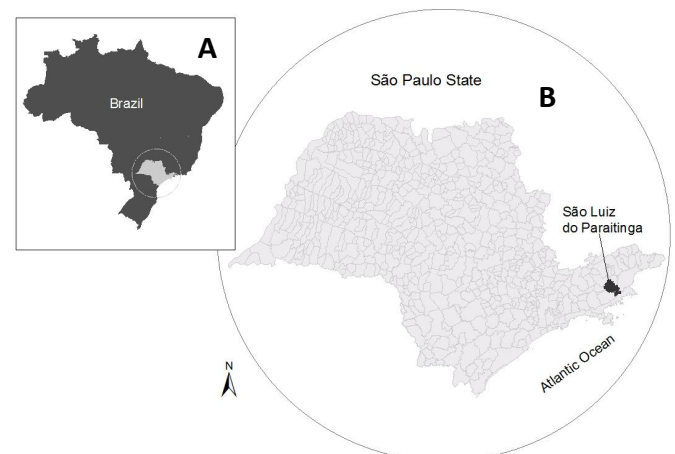


Figure 1. A) The State of São Paulo highlighted in the Brazilian map. B) São Luís do Paraitinga Municipality highlighted in the State of São Paulo map.



Rural communities in Brazil are important SES, specifically in south-eastern states such as São Paulo, where landscapes are highly fragmented and urbanised. Landscapes there sometimes have patches of native vegetation that are especially important to wild animals, serving as habitat and 'stepping-stones', which generate various ecosystem services and are also home to human communities and their livelihoods (Moraes, 2019). The vast majority of rural properties (96%) in the municipality of São Luiz are owned by smallholders (Akarui, 2017).



Figure 2: Traditional dance presentation at the central square, in front of the main church, during the festivity of the Holy Spirit in São Luiz do Paraitinga, 2016.

Photo: A. Moraes

In this context lies Catuçaba, a rural district of São Luiz comprising a village with around 1,000 inhabitants and its surrounding rural neighbourhoods. Most inhabitants make their living from small-scale animal husbandry and other smallholding activities (Moraes, 2019).

Until a few decades ago, the village was partially isolated from the urban centre due to poor road access. However, the road connecting the village to downtown was paved by the year 2000, facilitating outsiders' access and products transportation, and improving the access of villagers and rural inhabitants to infrastructure, education and health. Tourism-related activities have been modestly flourishing in the territory, supported by its

beautiful landscape, pleasant climate and historical farms.

Conservation and Livelihood Challenges

Land degradation is longstanding in the region. Agriculture has been practiced since the settlement of the first colonisers in the late 17th century, in spite of the hilly landscape and low nutrient availability and permeability of the soil (Akarui, 2017). Economic cycles (cotton, coffee and cattle), along with poor soil management techniques, contributed to land degradation, impoverishing the soil, and more recently covering the land with *Brachiaria*, an invasive exotic grass that poorly feeds the cattle and worsens soil permeability. As a result, cattle productivity has declined and many landowners fell back on other activities to complete their income.

Meanwhile, due to the promises of better job and education opportunities in urban centres, rural out-migration hampered the availability of rural workers and lowered social cohesion. Currently, land degradation in such social context threatens most of the traditional livelihoods.

On 1st January 2010, São Luiz suffered from a flood of great magnitude, when the river crossing the downtown area raised over 11 metres above its regular level in a matter of hours, largely damaging the historical buildings and affecting the whole population, both urban and rural. Fortunately, there were no fatalities. Other than the high precipitation registered in end-2009 and early 2010, the flood was caused by factors linked to land degradation in rural areas, such as soil compaction in poorly managed pastures, fires commonly used to clear land, scarcity of forests near watercourses and human occupation of floodplains.

Community Initiatives¹

In the face of the disaster's intensity and tremendous material losses, the population of São Luiz showed a remarkable capacity to self-organise



in order to cope with the emergency situation and, later, to rebuild and restore the functioning of the city. Since the floods, the territory as a whole has been targeted by diverse projects focusing on forest restoration, agro-ecological production and capacity building.

The 2010 disaster stimulated new and ongoing community initiatives, mostly with the help of local and regional NGOs and government organisations. During the post-disaster reorganisation phase, the community actively participated in decisions regarding the reconstruction of historical buildings and other issues. In addition to engineering work conducted at the government's initiative, most post-disaster initiatives focused on keeping the vibrancy of local cultural manifestations.



Figure 3: The scenic landscape around Catuçaba district: degraded pastures and patches of biodiversity-rich Atlantic forest covering its hills and valleys.

Photo: C. Islas

The community also showed a remarkable sense of place and attachment to both São Luiz, similarly to Catuçaba, and its surrounding area (see Figure 3). The tragedy seems to have reinforced a sense of place and local people's capacity to cope and regain their community life with their own hands, and at the same time acknowledging and being grateful for all the solidarity and help they received from external people and institutions.

One of the community initiatives working to improve conservation and livelihoods was the *Comunidade da Vila* (Village Community). In 2012, the Learning Communities initiative began in Catuçaba. The main goal of the project was to promote an environment for reflection about nature conservation and local development, and to facilitate the planning of collective actions (Araujo et al., 2017; Moraes, 2019). Together with local people, the initiative planned and organised several cultural events and community actions over three years (Araujo et al., 2017). Although the project ended in 2015, the community continued to meet until 2017, focusing on a street market with local products, tourism-related activities and festivities (Moraes, 2019).

A local NGO, Akarui, had been developing projects for nature conservation integrated with socio-economic development in the region since 2003. After the 2010 flood, their prominence increased as Akarui members' attachment to and knowledge about the territory, in addition to their technical expertise, led efforts to a sustainable development of rural areas of the municipality. Akarui has carried out projects regarding socio-environmental characterisation, forest restoration, agro-ecological transition, pasture management and improvement of farmers' income. The NGO is still working in the territory, currently expanding their initiatives to encompass environmental education and food security and sovereignty.

After the extreme events of 2010 (flood) and 2013/2014 (severe drought), more community members got interested in taking part in restoration projects, and a growing number are willing to adopt agro-ecological principles to their production chain. An Agenda 21 plan, built through participatory methods for the watershed, including guidelines for its sustainable development, is a featured product of Akarui. The NGO acknowledges rural communities as their main partners (Akarui, 2017).

Finally, another initiative named *Rede para o Desenvolvimento Sustentável do Alto Paraíba* (Upper Paraíba River Sustainable Development Network), or REDESUAPA, began their work after the 2010 floods. The network encompasses diverse stakeholders, including local leaders, local and state government, local and regional NGOs and researchers, who met voluntarily in the municipality. In addition to project development, REDESUAPA created synergies among ongoing efforts and aimed at influencing public policy based on a systemic view of the territory, and promoting ecological restoration, sustainable farming and community-based tourism. For instance, in 2016, REDESUAPA wrote an open letter addressed to the candidates running for Mayor asking for their commitment to priority guidelines for urban and rural sustainable development in the municipality. The network played a key role in the efforts to bring investments of a big project to the region, which is funded by the Global Environment Facility (GEF). The Recovery and protection of climate and biodiversity services in the Paraíba do Sul Basin of the Atlantic Forest of Brazil project is based on Payments for Environmental Services (PES) and other incentives for sustainable land management and conservation in private lands. The members of REDESUAPA are still in touch with each other, but the network itself is on 'standby mode'. However, the synergies created by REDESUAPA are reflected in a number of other initiatives concerning local development, conservation and ecological restoration.

¹The data and analyses on the social-ecological system of São Luiz and Catuçaba refer to the period 2012-2017. The authors acknowledge that changes have occurred in the system since then. Although they are not analysed here, we have added some information about the current situation, based on non-systematic observation.

Practical Outcomes

The development of initiatives is neither easy nor fast, but they have certainly been flourishing and creating arenas for community learning,

empowerment and development in São Luiz do Paraitinga (including Catuçaba). Although the 2010 flood was an important trigger to various initiatives, it is still unclear how successful they will be in terms of self-maintenance and mitigating the risk of floods in the future.

These bottom-up initiatives have valued rural livelihoods and fostered opportunities for people to remain in rural areas. Inhabitants have been self-organising to strengthen their *Caipira* identity, preserve local traditions (e.g. festivities and foods) and promote local development, with an overall understanding that their good quality of life depends on nature conservation (Moraes, 2019). Small, low-cost initiatives triggered improvements in the community capacity to self-organise and act collectively for a common goal (Moraes and Islas, 2020), although leadership and broader participation of community members in such initiatives remain a challenge.

Bridging organisations, such as NGOs and university teams, play a crucial role in linking local stakeholders with one another and with outside institutions (i.e. State Environmental authorities and funding agencies), facilitating learning opportunities, fundraising and providing access to technical advisory (Araujo et al., 2017). In the course of creating environments where diverse local and outside stakeholders can interact and collaborate, the initiatives have generated a feedback loop, which is attracting more and more initiatives (Moraes, 2019).

Until 2017, several stakeholders were joining efforts to work synergistically, for instance through REDESUAPA, to positively transform the region's landscape at the watershed level. The efforts were benefiting from both bottom-up and top-down initiatives, taking into account both local knowledge and technical/scientific expertise, and involving stakeholders with different levels of political power. Above all, the efforts involved a diverse array of individuals who believe in a more sustainable and just society, and struggle year after year to accomplish their vision.





Figure 4: *Caipira* meeting in January 2017, where members of Catuçaba community and their external supporters discussed local development, nature and culture.

In the face of socio-ecological change over the last decade, various community initiatives towards conservation and social development have emerged in São Luiz do Paraitinga (Moraes, 2019; Moraes & Islas, 2020). Many tourism-related activities have been developing, especially those regarding ecotourism (e.g. farm hotels and rafting) and cultural tourism (e.g. religious, art and local food festivities). More recently, other community initiatives were established as local markets of agro-ecological products and craft fairs. After the 2010 floods, the municipality drew the attention of many governmental and non-governmental organisations (NGOs) favouring the emergence of new environmental and social initiatives. The success of these initiatives has depended on population engagement and participation, as well as aligning to local demands and inherent dynamics of the local SES. The question ahead may be if and how these initiatives will thrive (or perish) in the long term, and which factors will determine their course.

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Acknowledgements



Community Conservation
Research Network

This report was produced by the Community Conservation Research Network (CCRN), a global partnership of Indigenous, academic, community, governmental and non-governmental partners. It contributes to a larger body of work which focuses on the linkages of environmental stewardship and sustainable livelihoods at a local community level. The



CCRN is grateful for the support of Saint Mary's University, Canada, and the Social Sciences and Humanities Research Council of Canada (SSHRC).

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