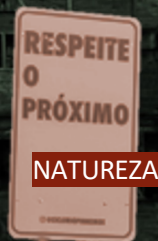


PAISAGEM MARGINAL: RENATURALIZAÇÃO DAS CIDADES

SAVE THE DATE
28-30
DE JUNHO
Museu Oscar Niemeyer, em Curitiba

SEMINÁRIO INTERNACIONAL

RE-NATURALIZAÇÃO DAS CIDADES
E REDUÇÃO DA CRISE SÓCIO-AMBIENTAL



CAMILA GOMES SANT'ANNA

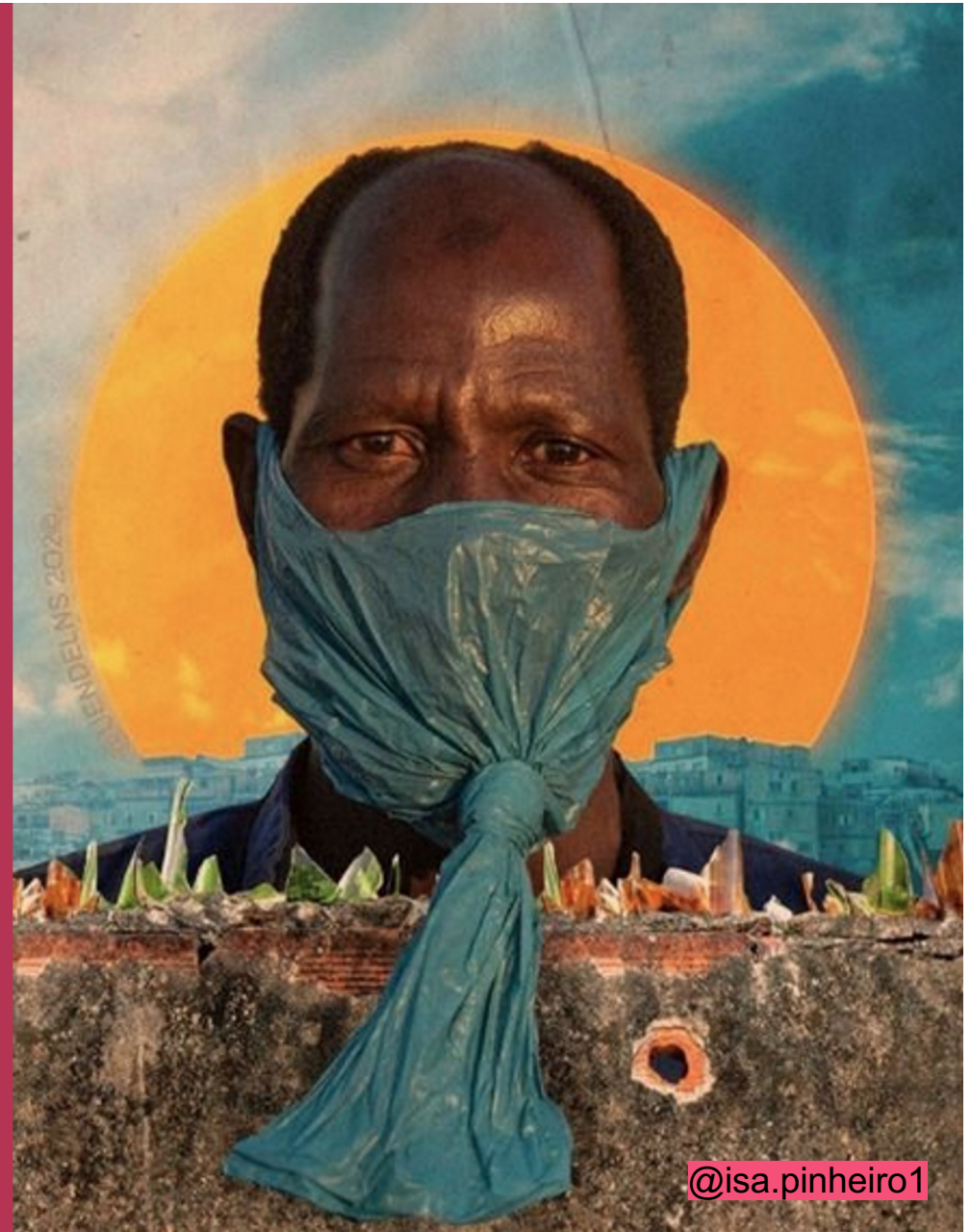
Profa. Dra. Universidade Federal de Goiás (Campus Goiás)



Observatório da Paisagem. Um novo olhar para as Paisagens de Margem.

DESAFIOS

- segurança Hídrica;
- segurança Alimentar;
- adaptação à mudança climática;
- saúde e bem-estar;
- anseio de Natureza.



@isa.pinheiro1

COMMENT

municipal bonds — for different classes of cities and countries should be established according to the level of urban vulnerability and the speed of urban growth. The proportion allocated to risk management in small and mid-sized cities must grow. It is essential that investments go beyond improving technical infrastructures and physical assets (such as housing); also crucial is developing human resources and strong institutions.¹

Improved monitoring of hazards, human susceptibilities and coping and adaptation processes by municipalities, cities and civil-society groups is also required. Monitoring by citizens would complement official government and international data and engage different groups. Finally, more emphasis should be given to understanding how national and local governance influence resilience at the community level in urban areas.

Strengthening the resilience of vulnerable small and medium-sized cities is where the success or failure of the UN's New Urban Agenda will be decided. ■

Joern Birkmann is director, and **Torsten Welle** is a senior lecturer, at the Institute of Spatial and Regional Planning, University of Stuttgart, Stuttgart, Germany. **William Solecki** is professor in the Department of Geography, Institute for Sustainable Cities, Hunter College, City University New York, New York, USA. **Shuaib Lwasa** is associate professor in the Department of Geography, Geoinformatics and Climatic Sciences, Makerere University, Kampala, Uganda. **Matthias Garschagen** is head of section at the United Nations University, Institute for Environment and Human Security, Bonn, Germany. e-mail: joern.birkmann@reus.uni-stuttgart.de

1. Vermeiren, K., Van Rompaey, A., Loopmans, M., Serwaja, E. & Mukwaya, P. *Landsc. Urban Plan.* **106**, 199–206 (2012).
2. Heinrichs, D., Krollenberg, K., Hansjürgens, B. & Martínez, F. (eds) *Risk Habitat Megacity* (Springer, 2012).
3. Hochrainer, S. & Mehlner, R. *Cities* **28**, 53–61 (2011).
4. Garschagen, M. & Romero-Lanikao, P. *Clm. Change* **133**, 27–52 (2015).
5. Satterthwaite, D. *Small and Intermediate Urban Centres in Sub-Saharan Africa* IIED Working Paper (2015).
6. Adelekan, I. et al. *Int. Dev. Plann. Rev.* <http://dx.doi.org/10.3828/idor.2015.4> (2015).
7. *Humanity on the Move: Unlocking the Transformative Power of Cities* (WBGU, 2016); available at <http://go.nature.com/2oag99n>
8. Welle, T. & Birkmann, J. *J. Extreme Events* **2**, 1550003 (2015).
9. Rosenzweig, C. et al. *Climate Change and Cities: Second Assessment Report of the Urban Climate Change Research Network* (Cambridge Univ. Press, in the press).
10. Birkmann, J., Garschagen, M. & Setiadi, N. *Urban Clm.* **7**, 115–133 (2014).



Urban-region plans need to maximally sustain farmland and nature, while creating viable communities instead of sprawl.

Where to put the next billion people

Richard T. T. Forman and Jianguo Wu call for global and regional approaches to urban planning.

By 2030, 1.1 billion more people will live on Earth — bringing the total to about 8.5 billion. Most of them will arrive in dense Asian and African cities, exacerbating pollution and resource shortages¹. Urban expansion alters a city's 'big seven': natural vegetation; agricultural land; clean water; jobs; housing; transport; and communities. Rapidly growing cities such as Kano, Niamey, Sikasso and Bobo-Dioulasso in sub-Saharan West Africa, for example, are already converting woodlands into irrigated farmland to feed their rising populations².

Urban planning can slow such degradation, and even improve matters. But protecting natural and agricultural land, water bodies and biodiversity are rarely top priorities for municipal governments. Planners focus

on creating jobs, housing, transport and economic growth.

A new approach to planning cities is called for: one that is both global and regional. It must consider which areas are best placed to support higher populations without greatly increasing the already heavy ecological footprint on our finite Earth.

Globally, planners should prioritize development in the most suitable (or 'least bad') areas. That rules out regions that are populous, resource-poor or hotspots for native biodiversity. It points to places that have the warm and moist climates amenable to growing crops, such as grassy and forested lands in temperate and tropical regions. We see promise in large areas in the Americas, central Africa and Asia as well as pockets of Oceania.

THOMAS HERRING

Second, metropolitan regions need to manage where they absorb new arrivals. Currently people often concentrate in cities or areas of urban sprawl (see *Nature* **467**, 900–901; 2010). Instead, compact settlements along the urban fringe and in surrounding satellite cities and towns should be encouraged. This provides space for sustainable communities and limits the loss of valuable land. Managed satellite-city growth can be seen around Barcelona, Spain, and compact communities have been established around Portland, Oregon, and Canberra, Australia.

Such a vision demands worldwide coordination. It will require international and national policies for environmental protection, urban development and human migration. And each city must develop an urban regional plan.

A working visit by one of us (R.T.T.F.) to Barcelona in 2002, including a memorable helicopter ride, showed how such planning can work³. Below, the city's chief planner had gathered mayors and leaders from across the region. Their conversation went something like this: "We're wasting land! We're all in this place together. No American sprawl wanted here. Save and improve our tight water supply. Rein in the floods."

Stop shrinking our parks and conservation areas. Don't stick

band-aids on our transportation system. We need long-term economic strategies. Tourists and grapevines will not like our warming climate.⁴ Such conversations are needed to galvanize support for planning whole urban regions.

RIISING PRESSURE

Like a tsunami, urbanization moves powerfully and swiftly across the land. City limits bulge; satellite cities grow; strip developments and sprawl spread. These last two are the most detrimental to the environment⁵. The reason why expansion is so damaging harks back to the origins of cities. Most settlements began on good agricultural soil near a body of fresh water and natural vegetation⁶. Buildings, cultivation, pasture and woodland often evolved in concentric rings. Episodes of urban expansion therefore cover or pollute once-valuable natural resources at ever increasing range. Meanwhile, the exploding urban population is inundated with solid waste, wastewater, heat and pollutants.

This pattern applies to cities of all sizes, from small (fewer than 500,000 people) to mega (more than 10 million people). Around the edges of the small and mid-sized US cities of Salt Lake City in Utah, and Denver in Colorado, for instance, good agricultural soil has been covered with houses. Expanses of natural ecosystems have shrunk and

COMMENT

become fragmented and degraded. Semi-wild wooded recreation areas lie farther from the city's people. Wells have lowered the water table, dried out streams and wetlands and made wildlife scarcer. Similarly, Seoul has converted a greenbelt into a ring of parks that is separated by highways and new communities. Urban sprawl has taken place around cities across China at unprecedented scale and speed.

Climate change makes things worse by increasing the number and severity of heat waves, droughts, floods and days of bad air quality⁷. Expansion of coastal cities — such as Guangzhou, Mumbai, New Orleans, Osaka and Vancouver — puts more people at risk of flood damage from sea-level rise. The urban poor are among the most vulnerable.

Meanwhile, global food production will need to increase enormously. Feeding 1 billion new mouths only 14 years from now without drastic changes to the food system could require a few hundred million new agricultural hectares, an area about the size of Greenland, even India⁸.

SUITABLE PLACES

To see which areas of the world have physical conditions that could theoretically accommodate an extra billion people sustainably, we overlaid maps of seven variables from *The Atlas of Global Conservation*⁹. We ruled out regions with extreme or high water stress; other arid areas; tundra and ice; centres with species unique to a region; and regions with population densities that exceed 100 people per square kilometre, namely much of Europe, the Middle East, India and China and the western United States.

That leaves large areas of South America; parts of southern Canada and the northern and eastern United States; south-central Africa; parts of Asia north of the Himalayas and from the Black Sea to north China; and scattered parts of Oceania (see 'Habitable zones'). Some moist tropical areas could support crops such as cacao, coffee, oil palm, rice and maize (corn). But development should be prohibited in biodiversity hotspots such as Borneo, northern Queensland in Australia and parts of the Amazon basin.

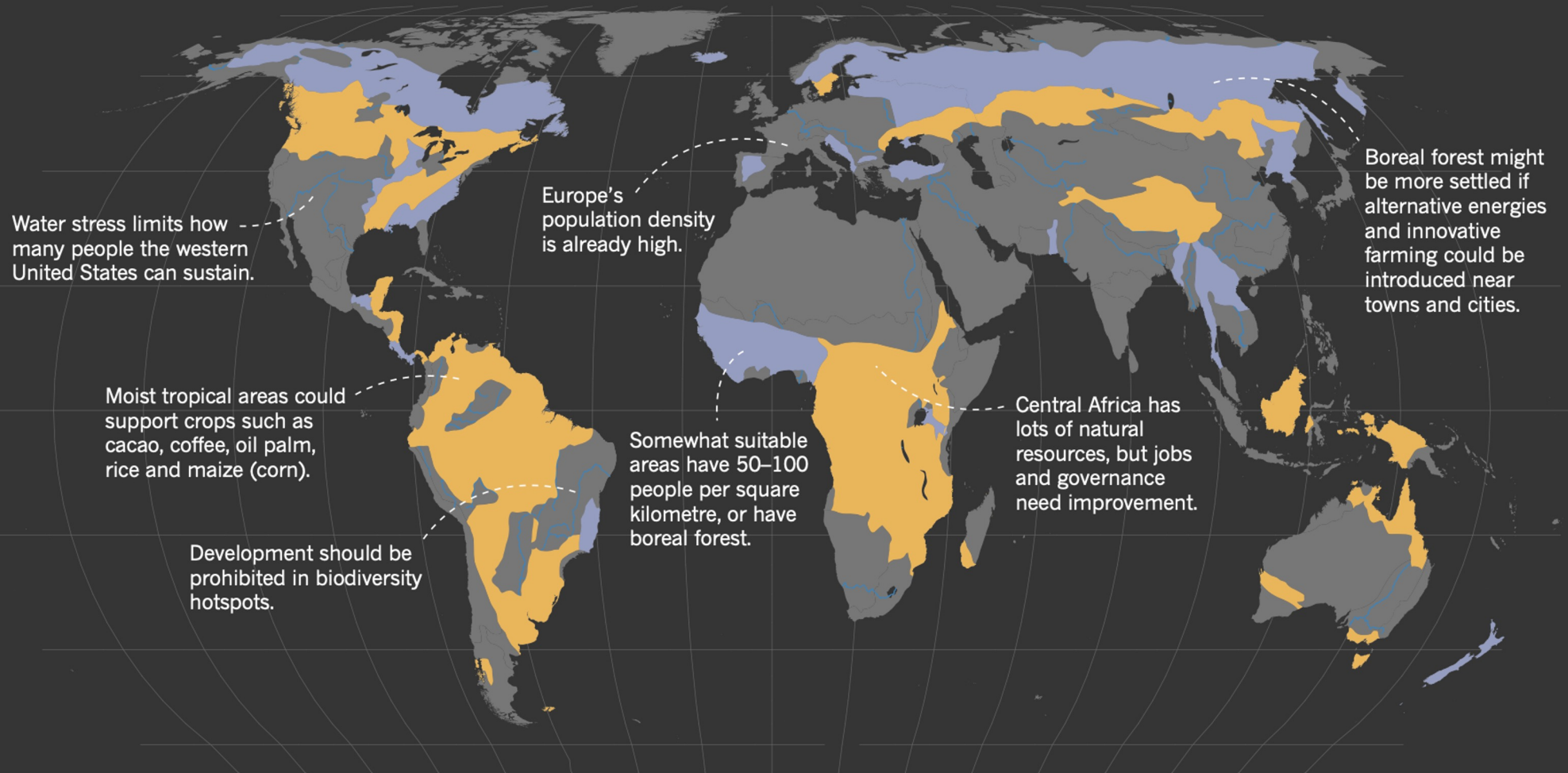
The fact that these amenable places differ from regions where population growth is most rapid raises the issue of whether migration to more suitable areas will increase, especially as the impacts of climate change hit harder. Most people prefer to stay in their own nation. The costs of migration are high: breaking cultural and social ties, transport and rebuilding of communities and infrastructure. But staying put becomes less

►

HABITABLE ZONES

Places with warm and moist climates amenable to growing crops, such as grassy and forested lands in temperate and tropical regions, could in theory sustainably accommodate more people. These include large areas of the Americas, central Africa and Asia as well as pockets of Oceania and Australia, but not populous or water-stressed regions or biodiversity hotspots.

■ Suitable ■ Somewhat suitable ■ Unsuitable



Mudança De Paradigma



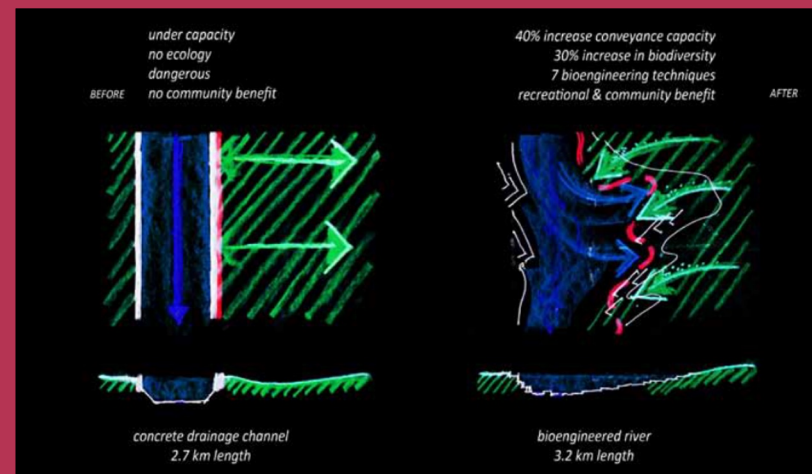
O reconhecimento de que a cidade é parte da natureza” (SPIRN, 1994, p. 294).

Restauração do
Rio Cheonggyecheon
(Seul) 2002-2005

Bishan-Ang Mo Kio Park e Kallang River– Cingapura - 2012

Um dos grandes desafios para a prática de Planejamento e de Projeto é promover o uso do solo, respeitando a capacidade suporte do território. Neste contexto, **renaturalizar** é fundamental para a sustentabilidade e resiliência das cidades e regiões.

Contribuem para as agendas nacionais e mundiais , dentre elas, os objetivos do desenvolvimento sustentável (ODS), a nova agenda urbana (NAU) e a redução do risco de catástrofes.





PAISAGEM

<http://essayavenue.com/essay-on-nature-conservation/>



**PAISAGEM COMO
NECESSIDADE (KELLY SHANON)**

PAISAGEM COMO INFRAESTRUTURA

<http://essayavenue.com/essay-on-nature-conservation/>

Mudança de Paradigma

CINZA/VERDE [+ ÁGUA] = HÍBRIDA INFRAESTRUTURA

CINZAVERDE

**CINZA
PLANEJADA
INFLEXÍVEL
NECESSÁRIA
MONOFUNCIONAL**

**VERDE
PLANEJADA
FLEXÍVEL | CONSTANTE
DESENVOLVIMENTO
NECESSÁRIA
SUSTENTÁVEL E RESILIENTE
MULTIFUNCIONAL
CÊNICA**

PONS, B. *La infraestructura verde como base de la resiliencia urbana*. Madri, 2017.
Tese (Doutorado). Facultad de Arquitectura e Urbanismo del Politécnico de Madri.

@Markus Spiske

soluções baseadas na natureza



What are Nature-based Solutions (NbS)?

NbS are defined by IUCN as "actions to address societal challenges through the protection, sustainable management and restoration of ecosystems, benefiting both biodiversity and human well-being." They use the power of nature and functioning ecosystems as infrastructure to provide natural services to benefit society and the environment.

NbS have prime potential to help address global challenges such as:

- climate change
- economic and social development
- human health

NbS can provide long-term environmental, societal and economic benefits:

- adaptation to climate change
- green jobs
- community resilience
- health benefits
- food and water security
- disaster risk reduction
- ecosystem degradation
- biodiversity loss
- healthy and accessible food
- clean air and water
- disaster risk reduction
- ecosystem integrity
- biodiversity net gain

Examples of NbS application:

- Protection, restoration and sustainable use of forest landscapes:** Secures water supply, erosion control and risk reduction.
- Protection or restoration of coastal ecosystems:** Brings community resilience, disaster risk reduction, economic development.
- Protection, restoration and management of wetlands:** Provides water storage, flood protection, food production.
- Providing space for rivers to naturally flow:** Enables flood protection, water security.
- Urban green and blue spaces:** Empowers climate regulation, betters human health, social development, green jobs.
- Sustainable management of agroforestry systems:** Offers food security, water regulation, economic and social development.

IUCN | www.iucn.org/adapt | [@theadaptproject](https://www.facebook.com/theadaptproject) | **A D O P T** | **Sida**

Objetivos de desenvolvimento sustentável (ODS), a nova agenda urbana (NAU) e a redução do risco de catástrofes.



Diálogo Setorial UE-Brasil sobre soluções baseadas na natureza

Contribuição
para um roteiro
brasileiro
de soluções
baseadas
na natureza
para cidades
resilientes

Escrito por Cecilia P. Herzog
e Carmen Antuña Rozado
Setembro de 2019

Investigação
e Inovação



The EU – Brazil Sector Dialogue on nature-based solutions

Contribution to a
Brazilian
roadmap on
nature-based
solutions for
resilient cities

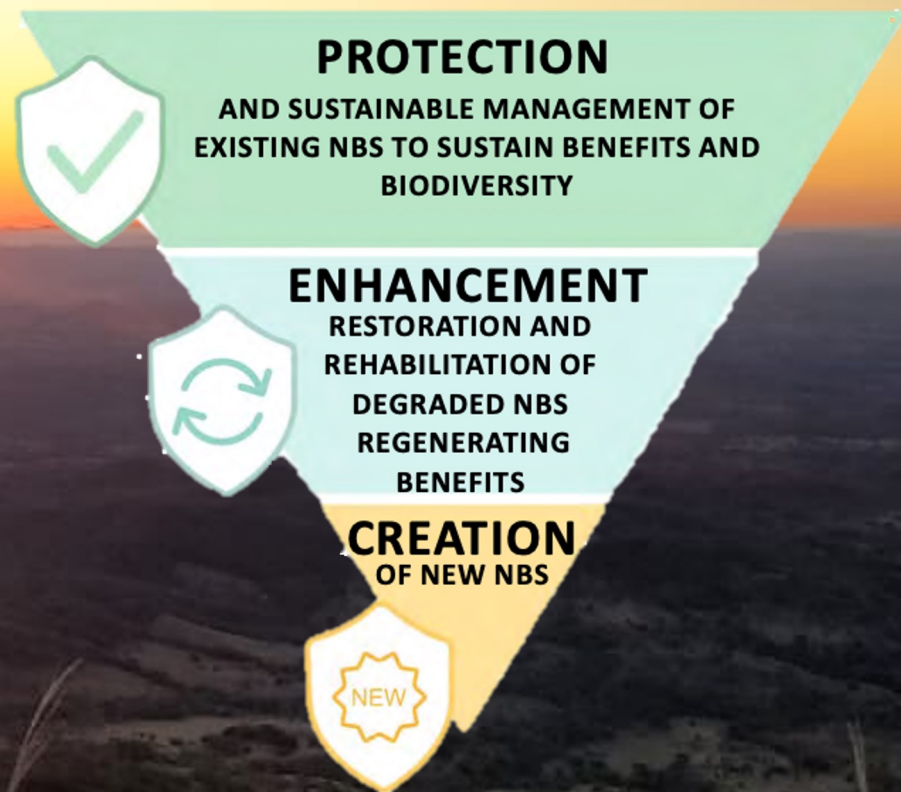
Written by Cecilia P. Herzog
and Carmen Antuña Rozado
September – 2019

Research and
Innovation

Sugestão de roteiro para SBN no Brasil

- Integrar as SBN em todos os níveis políticos (federal, estadual e local) e em todos os setores (p. ex. diferentes ministérios).
- Desenvolver I&I para testar localmente SBN adaptadas em diferentes regiões bioclimáticas brasileiras, em coordenação com as universidades e os municípios locais. Desenvolver a capacidade técnica local.
- Desenvolver esquemas de monitoramento e contribuir para a base de conhecimentos validados. Comunicar a eficácia das SBN tanto aos decisores políticos como aos cidadãos.
- Explorar modelos de financiamento e de negócio, envolver as empresas nas SBN e desenvolver I&I para aceitação por parte das empresas.
- Explorar novos mecanismos de governança e cocriação, criando comunidades de prática.
- Fomentar ações de cooperação internacional (p. ex. dentro da CELAC; com a UE) no domínio das SBN e em processos orientados pela ONU.

FLORESTA + CAMPO + ÁGUAS



BIODIVERSIDADE



"...“Não há como falar de mudança climática sem falar de pessoas”.

Txai Suruí

**PAISAGEM DE DIREITO DE TODOS
PAISAGEM COMO EXPRESSÃO DO
DESEJO DAS PESSOAS**

THE BURITI FLOWER

A FILM BY
JOÃO SALAVIZA & RENÉE NADER MESSORA

ANCESTRALIDADE

Filme 'A Flor do Buriti', que retrata resistência
dos indígenas Krahô (TO)



Goiânia (Brazil) Landscape Observatory

A conversation with the refugees and
their landscape

Camila Gomes Sant' Anna - Suzete Bessa
Course of Architecture and Urbanism- Federal University of Goiás (UFG)

Goiânia (Goiás) - Brazil

Brazilian members of the marginal landscape
refugees in Goiânia, a leader at The NGO "M
sem fronteiras" and a leader at Cátedra Sérgio
Mello (CSVM) at Federal University of Goiás;

COSMOPOLITA

Parlamento DESIGN DIPLOMACY

Curated by

Alban MANNISI & Charles ANDERSON

CITY
X VE
NICE

ITALIAN
SEZIONE
DEL PADIGLIONE
ITALIA
VIRTUAL
PAVILION

22/05-
21/11
2021



Boaventura de Sousa Santos

ecologia de saberes: valoriza o diálogo entre o saber científico e o popular das comunidades e movimentos sociais dos Sul Global.

DESigualdade, à margem e as periferias ?



**PANDEMIAS
DO SISTEMA**

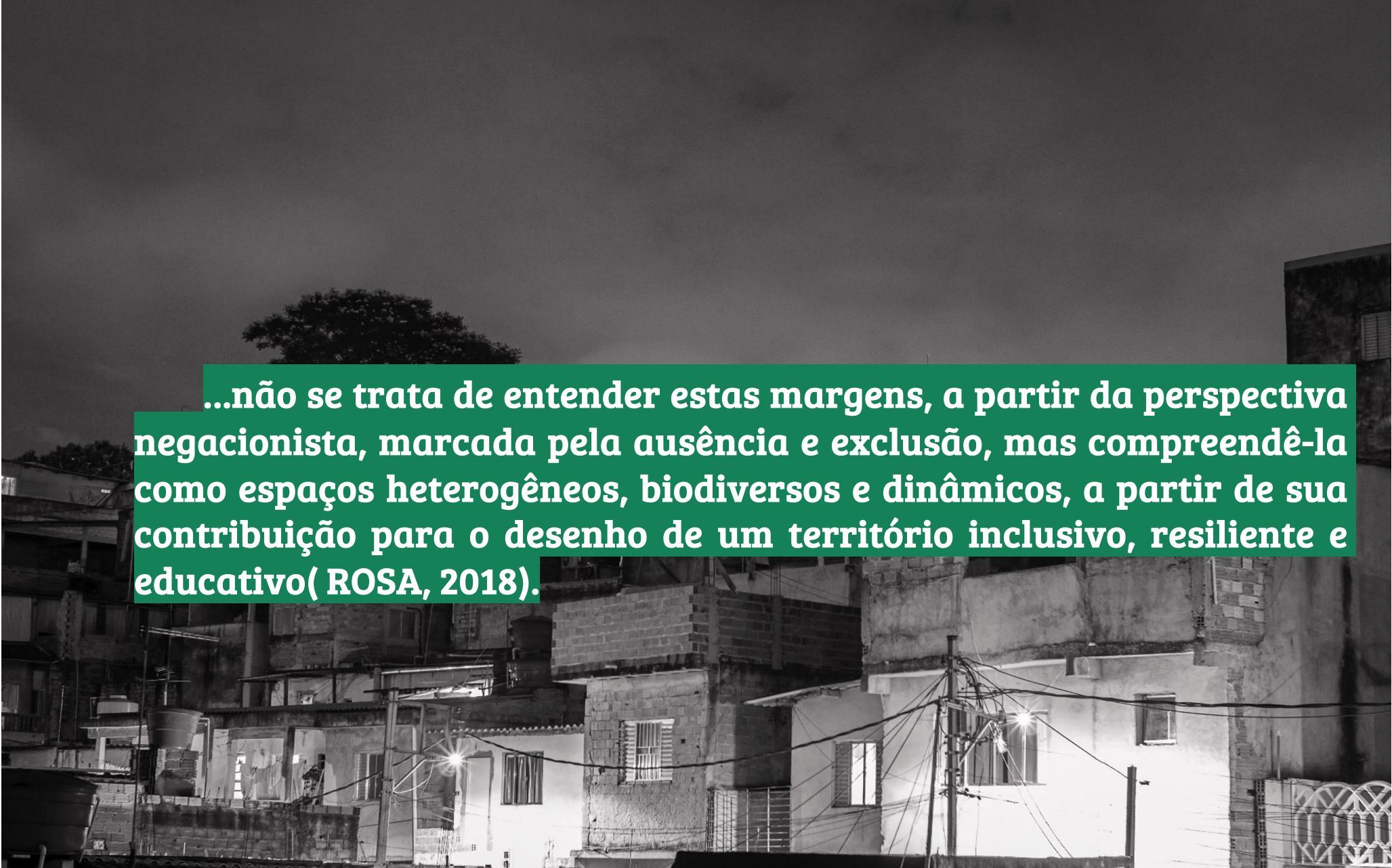
Naná Prudêncio



Paisagem de margem

@nathana-reboucas

contemplar os territórios marginalizados e suas comunidades e seus deslocamentos urbanos, que são espaços essenciais para revertermos o paradigma de desenvolvimento urbano do território, que desconsidera a natureza e a cultura e, muitas vezes, a população que o habita.



...não se trata de entender estas margens, a partir da perspectiva negacionista, marcada pela ausência e exclusão, mas compreendê-la como espaços heterogêneos, biodiversos e dinâmicos, a partir de sua contribuição para o desenho de um território inclusivo, resiliente e educativo(ROSA, 2018).

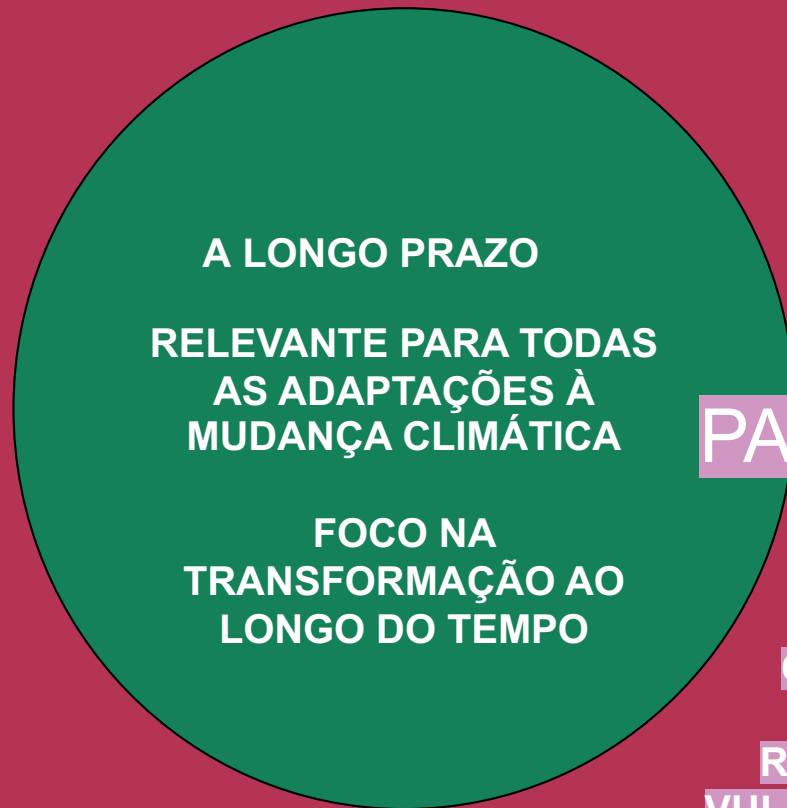
EMERGÊNCIA CLIMÁTICA NO BRASIL: A NECESSIDADE DE UMA ADAPTAÇÃO NÃO-RACISTA

Estamos vivendo no Brasil desigualdades sociais e territoriais decorrentes dos impactos e efeitos do aquecimento do planeta em 1,1 °C. Precisamos urgentemente, portanto, de políticas públicas que contenham medidas efetivas de adaptação para responder aos efeitos dos eventos climáticos extremos sobre a vida das populações das cidades, da floresta e do campo. Os desastres ocorridos nos últimos três anos, com enchentes e deslizamentos, contudo, revelam que nem o poder público, nem as instituições privadas estão atuando na gestão das mudanças climáticas. Assim, devem ser responsabilizados adequadamente por sua omissão e ação ilegais.

O que aconteceu recentemente no litoral norte de São Paulo é mais um triste exemplo dos impactos da crise climática que se agrava dia após dia. De acordo com o Centro Nacional de Monitoramento e Alertas de Desastres (Cemaden), as chuvas que caíram no final de semana de Carnaval - 18 e 19 de fevereiro últimos -, resultaram no acumulado de 682 mm de precipitação em Bertioga e 626 mm em São Sebastião, os maiores valores já registrados no país. Antes, o recorde histórico havia sido computado em Petrópolis, no Rio de Janeiro, quando a cidade foi castigada com uma chuva de 530 milímetros em 24 horas, na tragédia

Mudanças Climáticas

Redução de Risco de Desastre



PAISAGEM

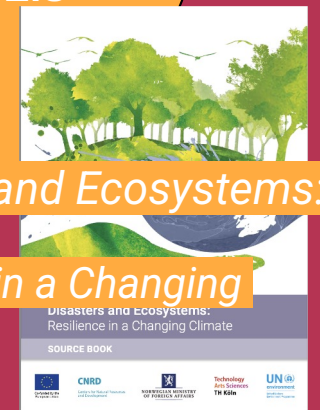
OBJETIVOS


REDUÇÃO DA
VULNERABILIDADE

JUSTIÇA AMBIENTAL E
SOCIAL

Disasters and Ecosystems:

*Resilience in a Changing
Climate*





"...Pertencer a um lugar é fazer parte dele, é ser a extensão da paisagem, do rio, da montanha. É ter seus elementos de cultura, história e tradição nesse lugar. Ou seja, em vez de você imprimir um sentido ao lugar, o lugar imprime um sentido à sua existência".

Ailton Krenak



Obrigada!

Camila Sant'Anna