

# Bioeconomy: the new sustainability?!

## Approaches and lessons learnt

*Um olhar transdisciplinar sobre a sustentabilidade: do meio ambiente à educação*

Seminário comemorativo dos 50 anos do DAAD Brasil

11 de agosto de 2022 - Universidade de Brasília - Auditório da Reitoria

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# “Nachhaltigkeit”



**Carl von  
Carlowitz  
(1645–1714)**



**Raw  
material  
crisis  
(wood)**



**Devasted  
landscapes**



**Sustainable  
forest use**

Only as much  
forest should be  
felled as it  
grows.  
Reforestation,  
planning, annual  
harvest





im Jahr 1839 (Lithographie von Th. Dibbold, Landesdenkmalamt)



oute

# A success story

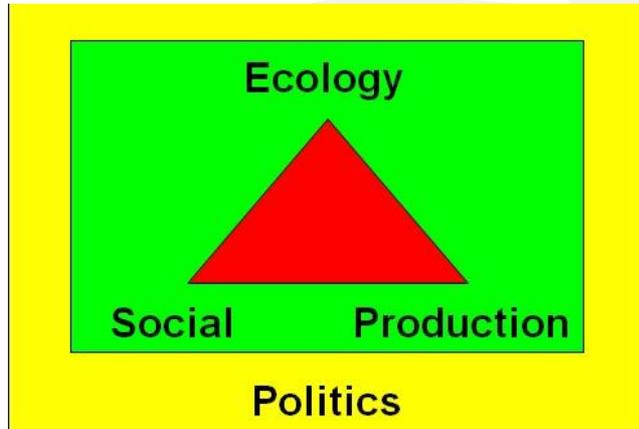
- Multiple reasons
  - Enlightenment
    - rationality, science
  - Mercantilism
    - „all for the country !!!“
  - Coal as a new source of energy
- Pattern with(out) value
- Response to an environmental problem but from an economic standpoint

# Environmental concerns

- Outside indigenous cultures, no major concerns on environmental conservation
  - Nature was provider of materials and resources
- Late 17<sup>th</sup> century: The Romanticism
  - Nature was first described as something beautiful.
- Until the 1960s, ecological thinking was practically inexistent.
  - Pioneering thinkers (e.g. William Vogt (1948) & Rachel Carson (1962) had no stronger societal response
- Change started in the late 1960s
  - First space pictures of our blue planet
  - Meadows “Limits of Growth”
  - The *oil shock* in 1973
  - “...carrying capacity of spaceship earth...”



# Sustainable Development



## Brundtland report -> Rio Summit

- Sustainable use of natural resources to break the vicious circle (UNCE, 1992)

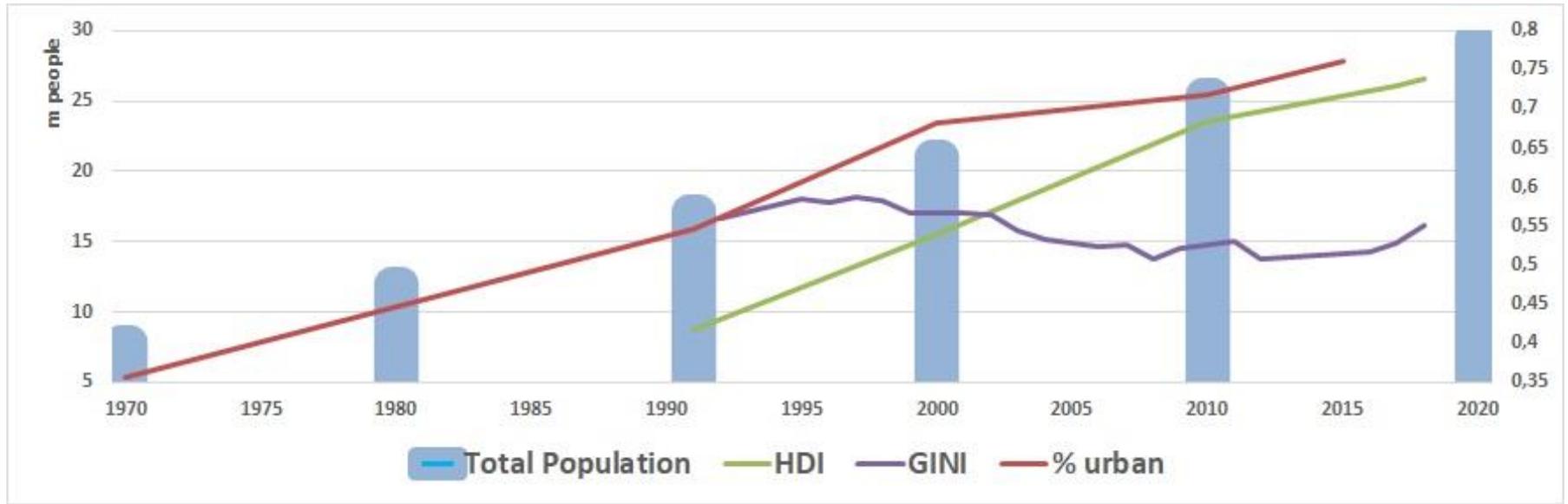
## Proliferation and of environmental discourses

- Biodiversity, human rights, environmental justice, climate change (Arts et al. 2010)

## Myriads of multi- and bilateral, national and local, public and private initiatives

- e.g. Pilot program to conserve the Brazilian rain forest (PPG7)

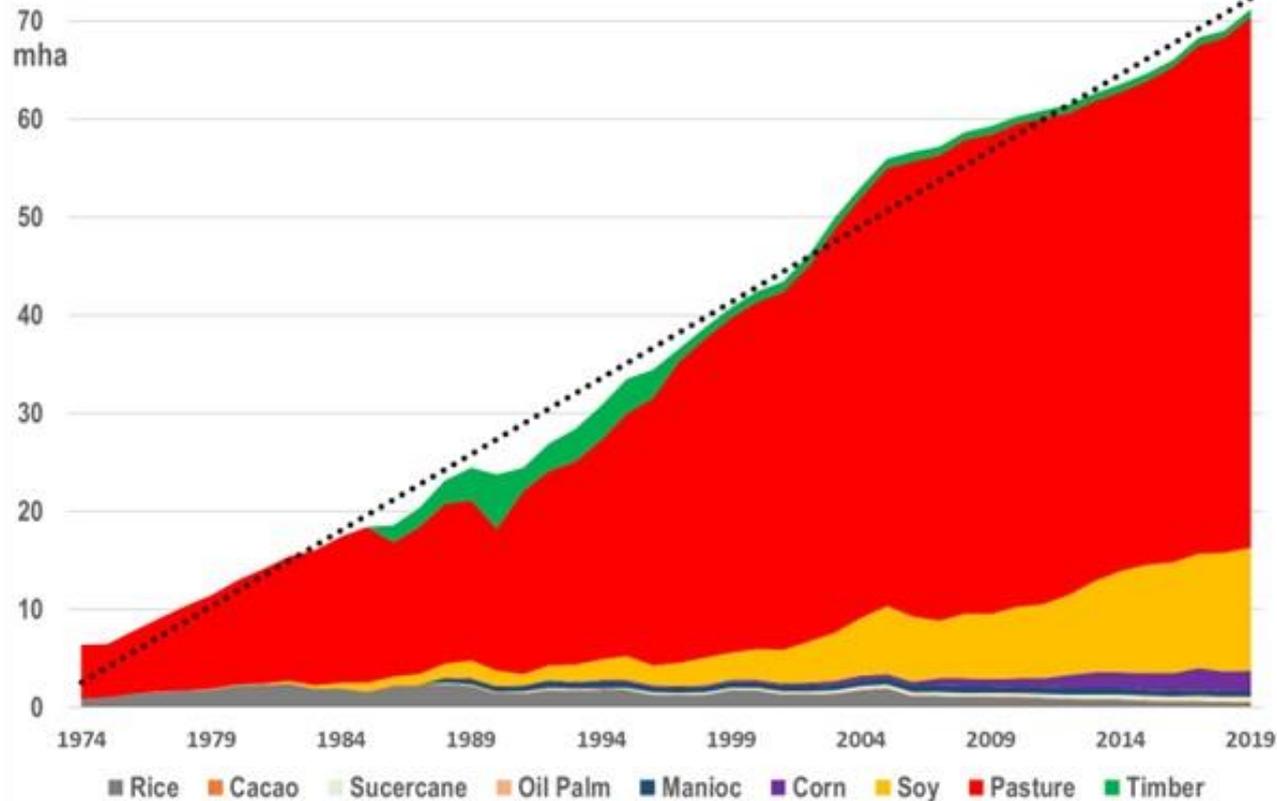
# Economic Development



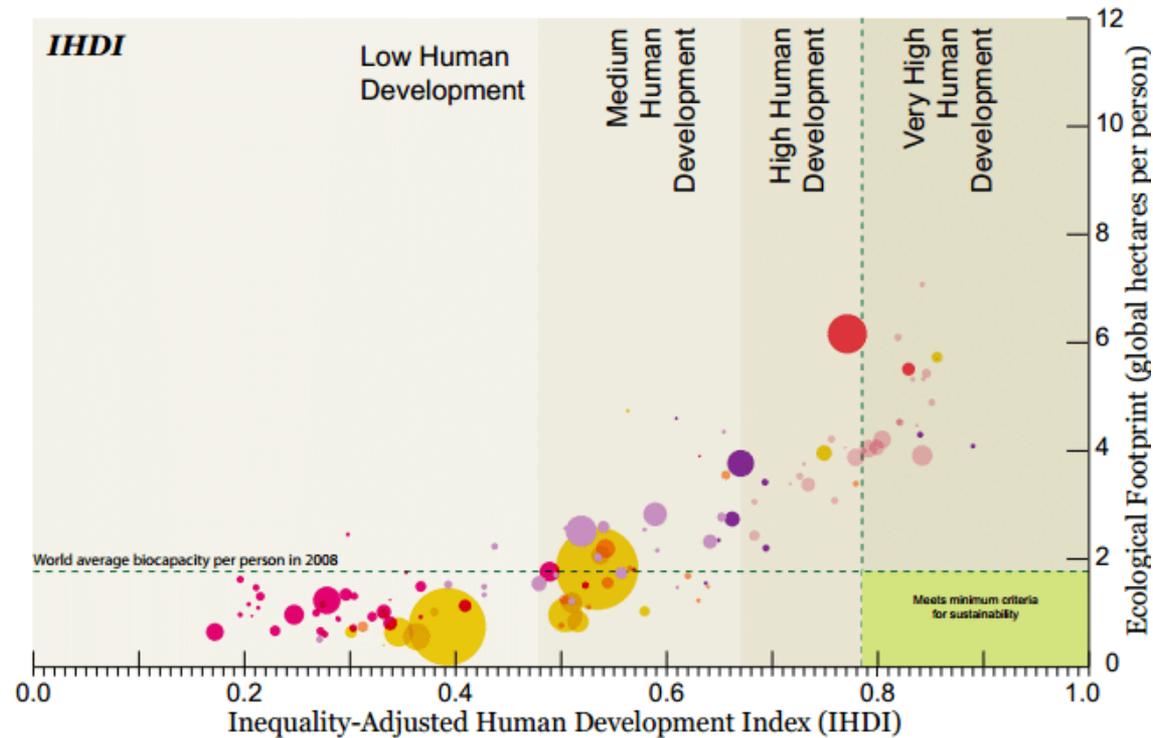
*Dynamic of key socio-economic indicators for Brazil's Legal Amazon since 1970 (Data sources: IBGE Demographic Census (total population, GINI, % urban); Global Data Lab and Human Development Atlas (HDI)) adapted from Pokorny et al. 2021*

# Land Use Change

- Expansion of agriculture
- Growing population
- Improved well-being
- Deforestation
- Aggregation
- Homogenization
- Marginalization



*Area of production related to the principle agricultural products and timber in the Legal Amazon (Data sources: SIDRA (land uses except pasture); MapBioma (pasture 1985 to 2019) and Agrarian Census (pasture 1975 to 1980)) adapted from Pokorny et al. 2021*



*The Ecological Footprint versus the Inequality-Adjusted Human Development Index by country (WWF, 2012)*

**Central problem:  
Economic  
development at  
the expense of  
the environment**

The idea of sustainable development still based on the universal development model from an agrarian to a consumer society as described by Rostow (1960) in his modernization theory

# Sustainable Development Goals: A new perspective

- Valid for all countries independent from the level of economic development
  - Efficiency, sufficiency, consistency
- Integrative understanding of development
  - Economic growth
  - Sustainable natural resource management
  - Reduction of disparities
  - Human rights
  - Active involvement of all actors (including the private sector)



# Bioeconomy

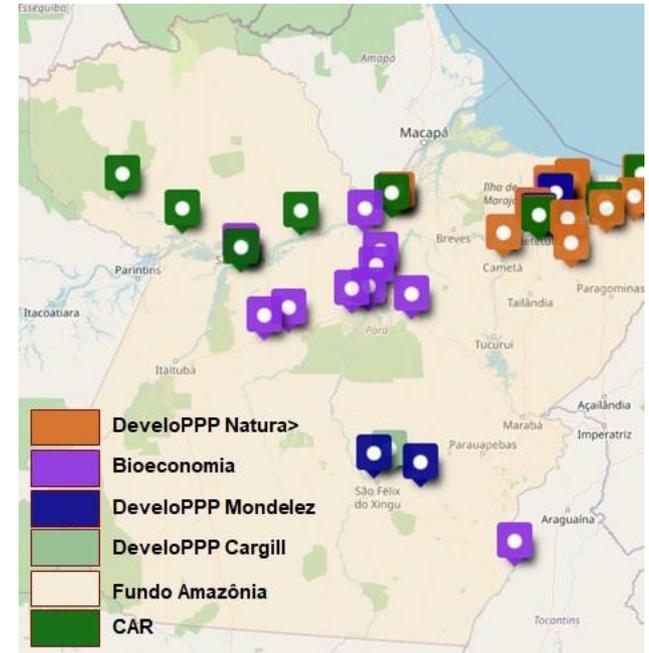
To operationalize SDGs

Bioeconomy foresees the transformation of the classical economy to an economy based on respect and sustainable use of cultural and biological diversity



# Bioeconomy in GLZ-Brazil

- Broad cooperation
  - Ministry of Agriculture – MAPA, State ministries, governmental agencies, companies, cooperatives, associations and producers
- Manifold value-chains
  - Cocoa, açaí, castanha, pirarucu...
- Five lines of action
  - Public policies, strengthening of cooperatives, mobilizing the private sector, capacity building, financing





# Great potentials

- **Broad interest in society**
  - Government, private sector, financial sector, agroindustry, cooperatives, indigenous and traditional groups, the social movements, farmers, traders, consumers, international cooperation
- **Creativity and innovation**
  - Smart people, new technologies, digitalization
- **Impressive initiatives**
  - Start-ups, sustainability departments, new value chains, intelligent logistics, new financial instruments, certification, public policies, cooperatives and associations etc.
- **Generation of wealth**
  - Numerous communities and families with a better life and contribution to economic growth

# Economy outpaces bioeconomy

- **Everyone wants fast, good and financially attractive results without risk**
  - Exaggerated expectations
  - Concentration on the most attractive products, and most capable producers
  - Specialization and standardization of production (and producers)
- **High jacking of bioeconomy discourses**
  - Agroindustry, growth economists, banks etc.
- **Undesired effects**
  - Marginalization of those producers with greatest cultural diversity and least responsibility for deforestation.
- **Instead of the bioeconomy transforming the classical economy, it is itself being transformed by the economic system.**



# Final considerations

- Bioeconomy has great potential for a (more) sustainable development
- However, there is a risk that the wave of interest will end up in a classic growth economy, only with different products
- To avoid such, here is a need for:
  - Clarity in concepts, discourses and commitments
  - Appreciation of diversity instead of specialization and standardization
  - Acceptance of limited financial attractiveness
  - Orientation to local perspectives, capacities and interests
  - Inclusion instead of integration
- Bioeconomy, like sustainability, is a political and social approach rather than an environmental one.
  - It is diverse, local, small, and slow



Thank you very much

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cooperação  
alemã

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