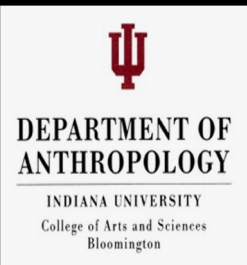


Indigenous Peoples and Local communities at the crossroad of Global Environmental Governance

GEF 7 – 7th Assembly of the Global Environmental Facility
Indigenous and Local Knowledge event
Vancouver, Canada
August 22, 2023



Eduardo S. Brondizio
Department of Anthropology
Indiana University Bloomington

Land Acknowledgment

The Anthropology Department wishes to acknowledge and honor the Miami, Delaware, Potawatomi, and Shawnee people, on whose ancestral homelands and resources Indiana University was built.

Locally based, Regionally Manifested, Globally relevant

Growing recognition and multiple forms of evidence recognizing the contributions of indigenous and local knowledge, values and worldviews, territories, practices, and concerns in regional and global level environmental assessments, agreements, and governance

1999: Cultural and Spiritual Values of Biodiversity. UNEP. A Complimentary Contribution to the Global Biodiversity Assessment.

2005: ECOSYSTEMS AND HUMAN WELL-BEING. MULTISCALE ASSESSMENTS. Chapter 14: Cultural Services. Co-edited by: Louisa E. Richardson, T. B. Shaver, Robert E. Howarth, Mark S. Boyer, David Tilman, David N. Siler, John R. Wilson, John M. Meyer, John P. Meyer, John R. Meyer, John P. Meyer, John R. Meyer, John P. Meyer.

2004: BRIDGING SCALES AND KNOWLEDGE SYSTEMS. Concepts and Applications in Ecosystem Assessment. Edited by: Walter N. Reid, Forest Berkes, Thomas Folgarait, and Diana Capistrano.

2016: LOCAL BIODIVERSITY OUTLOOKS. Indigenous Peoples' and Local Communities' Contributions to the Implementation of the Strategic Plan for Biodiversity 2011-2020. A companion to the book titled 'The Global Biodiversity Outlook'.

ipbes logo. The global assessment report on BIODIVERSITY AND ECOSYSTEM SERVICES. SUMMARY FOR POLICYMAKERS.

ipbes logo. The assessment report on THE SUSTAINABLE USE OF WILD SPECIES. SUMMARY FOR POLICYMAKERS.

1. Indigenous and Local Knowledge of Biodiversity and Ecosystem Services in Africa. ipbes logo.

2. Mobilizing Indigenous and local knowledge for restoration of degraded ecosystems in Kenya. A contribution to the Financing of the Multiple Knowledge Base Approach. Stockholm Resilience Centre Report.

3. Indigenous and Local Knowledge of Biodiversity and Ecosystem Services in Europe and Central Asia. ipbes logo.

4. Knowing our Lands and Resources. Indigenous and Local Knowledge of Biodiversity and Ecosystem Services in Europe and Central Asia. ipbes logo.

5. Indigenous and Local Knowledge about Pollination and Pollinators associated with Food Production. ipbes logo.

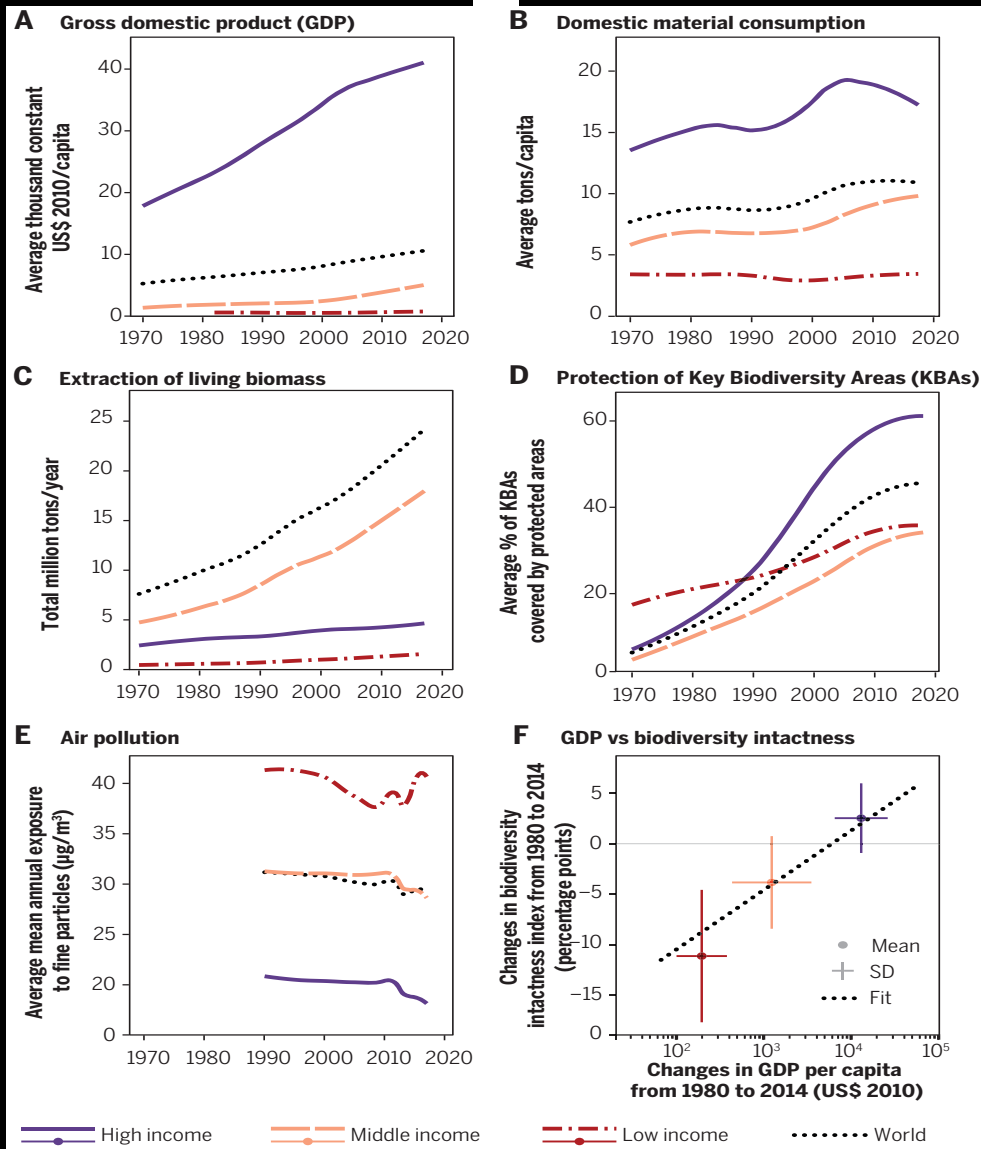
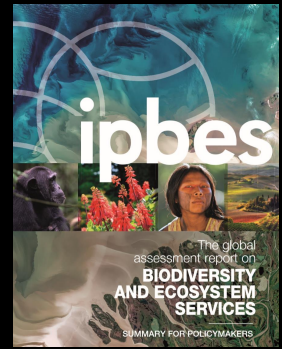
6. Knowing our Lands and Resources. Indigenous and Local Knowledge of Biodiversity and Ecosystem Services in Africa. ipbes logo.

Local Biodiversity Outlooks 2. The contributions of Indigenous peoples and local communities to the implementation of the Strategic Plan for Biodiversity 2011-2020.

The state of Indigenous Peoples' and Local Communities' lands and territories. A technical review of the state of Indigenous Peoples' and Local Communities' lands, their contributions to global biodiversity conservation and ecosystem services, the pressures they face, and recommendations for actions.

[But such recognitions are still partial... More latter]

Global trends and regional asymmetries in development, production and consumption



- ✓ Rising spatial segregation of production vs. consumption for food, energy and materials
- ✓ Environmental burden displacement
- ✓ Major increase in protected areas
- ✓ Unequal improvements in pollution
- ✓ The value of natural capital is shrinking in most low-income countries...
- ✓ Unequal GDP accrued per unit of resource and biodiversity deterioration

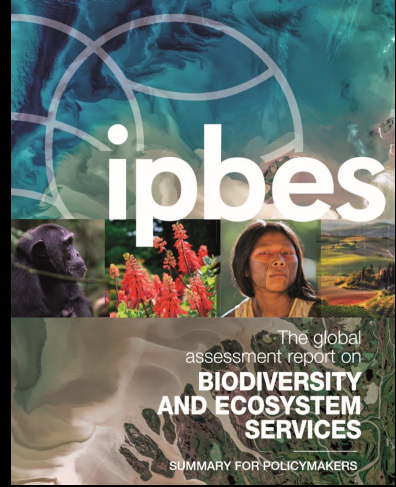
GEF 7 - a moment of change for the global environment



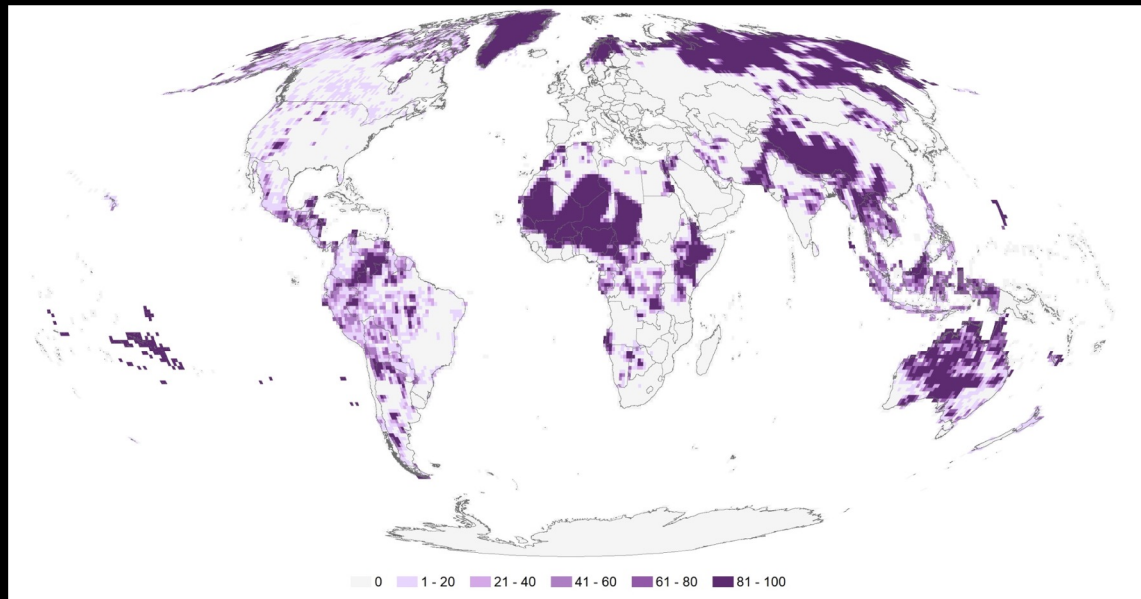
The state of Indigenous Peoples'
and Local Communities'
lands and territories

“ ...achieving the ambitious goals and targets in the post-2020 global biodiversity framework will not be possible without the lands and territories recognised, sustained, protected and restored by IPLCs. ”

The global importance of Indigenous Lands and Management and customary lands by Local Communities



The state of Indigenous Peoples' and Local Communities' lands and territories



- ✓ IP Lands: ~28% global land surface
- ✓ ~32% including customary community lands (132 countries)
- ✓ ~35% protected areas
- ✓ ~42% global land in good ecological condition are in IPLC land
- ✓ 36% of the global area covered by Key Biodiversity Areas

~476.6 Million IP globally

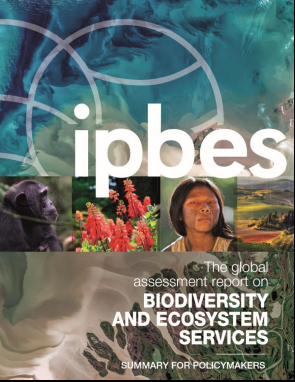
~5,000 groups

~4,000 languages

~73% rural

[urban predominance in regions]

- ✓ 65% of 'IPLC lands' have zero to low human modification
- ✓ 91% moderate to good ecological conditions
- ✓ Globally important for 15 provisioning, regulating, and cultural ecosystem services



Major contributions to advance the Aichi Biodiversity Targets

Goal	Target (abbreviated)	Progress towards elements of each target			
		Poor	Moderate	Good	Unknown
Drivers	1 Awareness		~ ~		
	2 Planning & accounting	✗	~ ~		
	3 Incentives	✗ ✗			
	4 Production & consumption	✗ ✗			
Pressures	5 Habitat loss	✗ ✗			
	6 Fisheries	✗ ✗			?
	7 Agriculture & forestry	✗ ✗	~		
	8 Pollution	✗ ✗			
	9 Invasive alien species	✗ ✗		✓	?
	10 Coral reefs etc	✗ ✗			
Status	11 Protected & conserved areas		~ ~ ~ ~	✓ ✓	
	12 Extinctions prevented	✗ ✗			
	13 Genetic diversity		~ ~ ~ ~		?
Benefits	14 Ecosystem services	✗			?
	15 Ecosystem restoration				? ?
	16 Access & benefit sharing		~	✓	
Implementation	17 Strategies & action plans		~ ~	✓	
	18 Indigenous & local knowledge		~ ~ ~ ~		? ?
	19 Biodiversity science		~ ~ ~ ~		?
	20 Financial resources		~		

- ✓ Recovery, conservation and sustainability of terrestrial marine and freshwater fisheries and ecosystems
- ✓ Governance, management, monitoring indigenous territories and protected areas
- ✓ Diversity of food systems, agrobiodiversity
- ✓ Invasive alien species management, control, monitoring and eradication
- ✓ Protection vulnerable and endangered species
- ✓ Awareness
- ✓ Certification
- ✓ Nagoya protocol
- ✓ Negotiation, establishment of research protocols and procedures
- ✓ knowledge and technological cross-fertilization

- **GEF 7 - a moment of change for the global environment**

Crossroads for Indigenous Peoples and local communities and for GEF

- to accelerate implementation of integrated programs and synergistic alignment financing for climate, biodiversity, pollution
- to mobilize concrete social advances foregrounding the needs and aspirations of Indigenous Peoples and local communities at a level equally important as the global environmental governance agenda.

Local Resilience, global diversity, similar struggles



- ✓ **85% Indigenous Peoples live in countries that have NOT ratified the 1989 ILO Convention**
 - ✓ ~80% in Lower, Lower-Middle, and middle income countries;
- ✓ **Highest poverty rates compared to any other group (irrespective of poverty-line used)**
 - ✓ **2-3 times more likely to be in extreme poverty –**
 - ✓ -Indigenous women are most vulnerable
- ✓ **86% have informal jobs (compared to 66% non-Indigenous)**
 - ✓ [LACKING comprehensive measures of well-being for IP]
 - ✓ **High rates of migration to urban areas in some regions**
- ✓ Facing violent crimes, land invasion, mining, organized crime
 - ✓ **High rates of pollution exposure**

“Progress has been too slow.”

‘Several knowledge gaps persist in understanding their social and economic situation.’

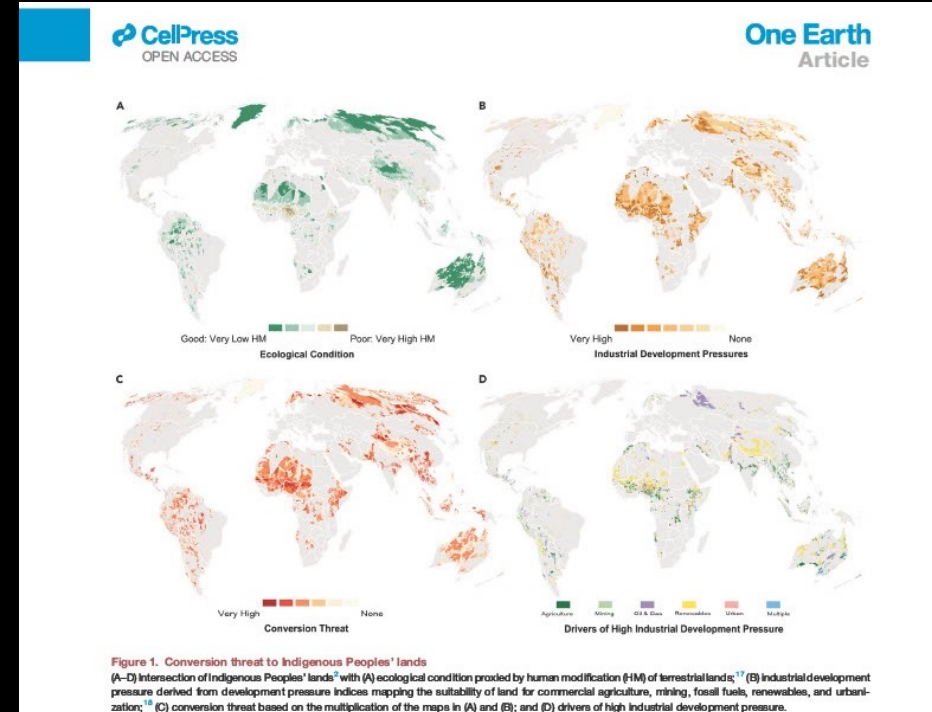
Article

Indigenous Peoples' lands are threatened by industrial development; conversion risk assessment reveals need to support Indigenous stewardship

Christina M. Kennedy,^{1,10,11,*} Brandie Fariss,^{2,3,10} James R. Oakleaf,² Stephen T. Garnett,⁴ Álvaro Fernández-Llamazares,^{5,6} Julia E. Fa,^{7,8} Sharon Baruch-Mordo,⁹ and Joseph Kiesecker²

Highlights

- Industrial development threatens nearly 60% of Indigenous Peoples' lands in 64 countries
- 37 countries have highly threatened lands that are vulnerable to conversion
- Vulnerabilities in rights, representation, and capital increase the risk of conversion
- Support of Indigenous governance and stewardship can reduce conversion risk



Suffering from and countering the spread of pollution [from agricultural, mining, extractive industries, urban growth, waste dumping, and infrastructure and energy development]

Integrated Environmental Assessment and Management — Volume 16, Number 3—pp. 324–341

Received: 1 October 2019 | Returned for Revision: 4 November 2019 | Accepted: 18 December 2019

Critical Review

A State-of-the-Art Review of Indigenous Peoples and Environmental Pollution

Álvaro Fernández-Llamazares,*†‡ María Garteizgogeoascoa,‡§ Niladri Basu,||
Eduardo Sonnewend Brondizio,# Mar Cabeza,†‡ Joan Martínez-Alier,††
Pamela McElwee,‡‡ and Victoria Reyes-García††§§



[Int J Environ Res Public Health](#), 2021 Sep; 18(17): 9222.

Published online 2021 Sep 1. doi: [10.3390/ijerph18179222](#)

PMCID: PMC8430525

PMID: [34501811](#)

Mercury Exposure in Munduruku Indigenous Communities from Brazilian Amazon: Methodological Background and an Overview of the Principal Results

[Paulo Cesar Basta](#),^{1,*} [Paulo Victor de Sousa Viana](#),² [Ana Claudia Santiago de Vasconcelos](#),³

Indigenous Peoples and Environmental Pollution—Integr Environ Assess Manag 16, 2020

327

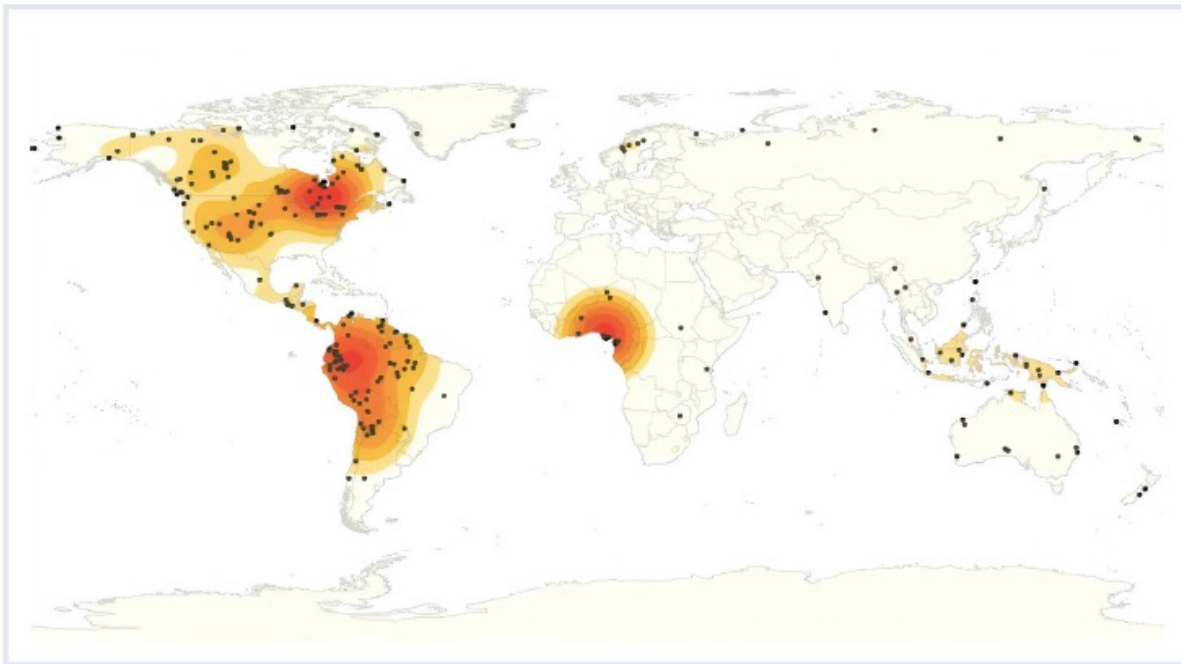


Figure 1. Distribution map of the case studies documenting pollution impacts upon indigenous peoples (n = 367) with Kernel density estimations.

INFOAMAZONIA

News Maps Projects About us ▾

DISCOVERY

NEWS / INDIGENOUS LANDS

Every person in three indigenous Munduruku villages in Pará is contaminated by mercury from wildcat mining

500% increase in mining in Indigenous lands during past decade

The multidimensionality of threats to Indigenous and Local Knowledge Systems

Journal of Ethnobiology
Volume 41, Issue 2, July 2021, Pages 144-169
© 2021 Society of Ethnobiology, Article Reuse Guidelines
<https://doi.org/10.2993/0278-0771-41.2.144>

Article

Scientists' Warning to Humanity on Threats to Indigenous and Local Knowledge Systems

Álvaro Fernández-Llamazares, Dana Lepofsky, Ken Lertzman, Chelsey GERALDA Armstrong, Eduardo S. Brondizio, Michael C. Gavin, Phil O'B. Lyver, George P. Nicholas, Pua'ala Pascua, Nicholas J. Reo, Victoria Reyes-García, Nancy J. Turner, Johanna Yletyinen, E. N. Anderson, William Balée, Joji Cariño, Dominique M. David-Chavez, Christopher P. Dunn, Stephen C. Garnett, Spencer Greening (La'goot), Shain Jackson (Niniwum Selapem), Harriet Kuhnlein, Zsolt Molnár, Guillaume Odonne, Gunn-Britt Retter, William J. Ripple, László Sáfíán, Abolfazl Sharifian Bahraman, Miquel Torrents-Ticó, and Mehana Blaich Vaughan

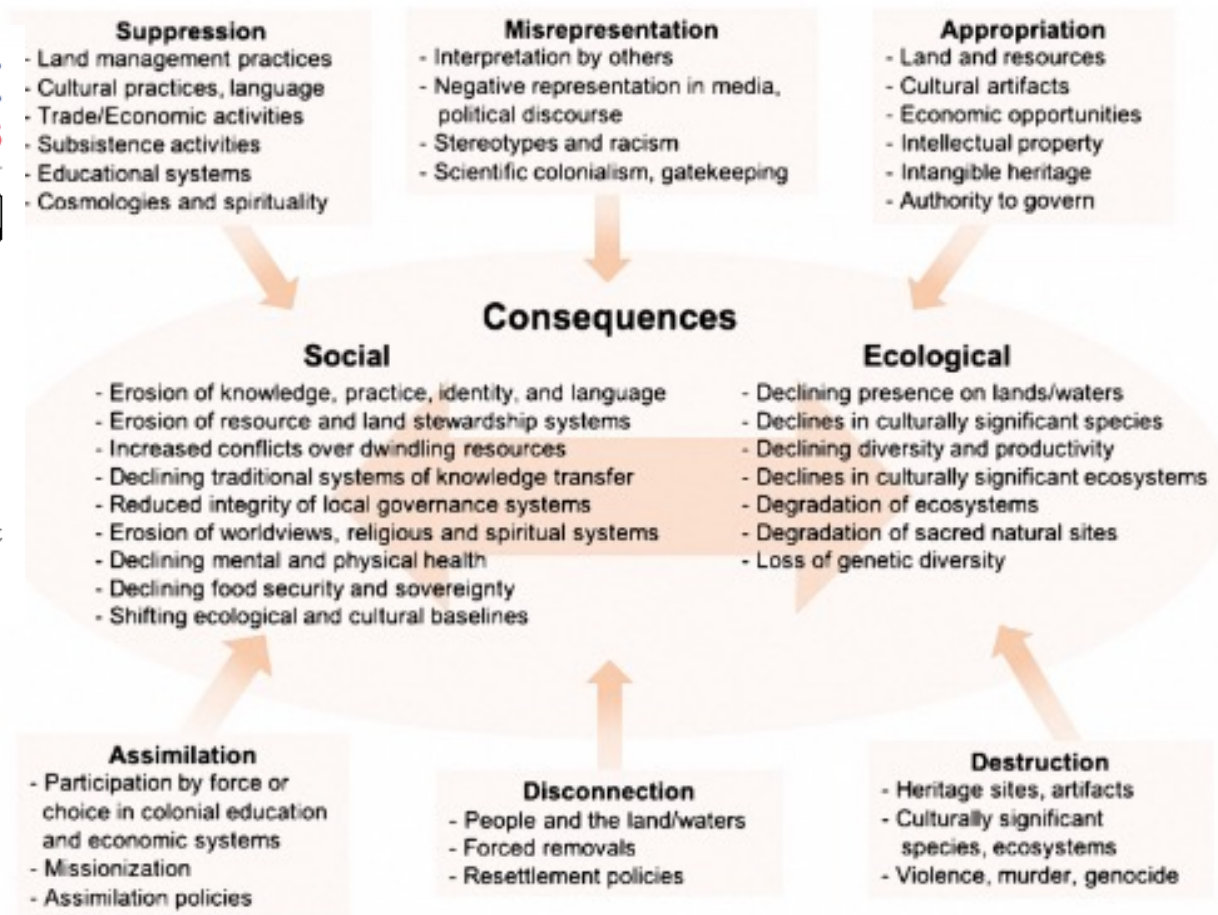
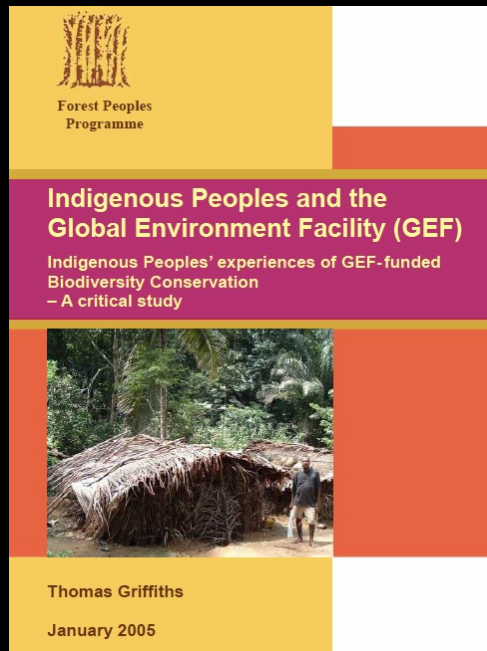
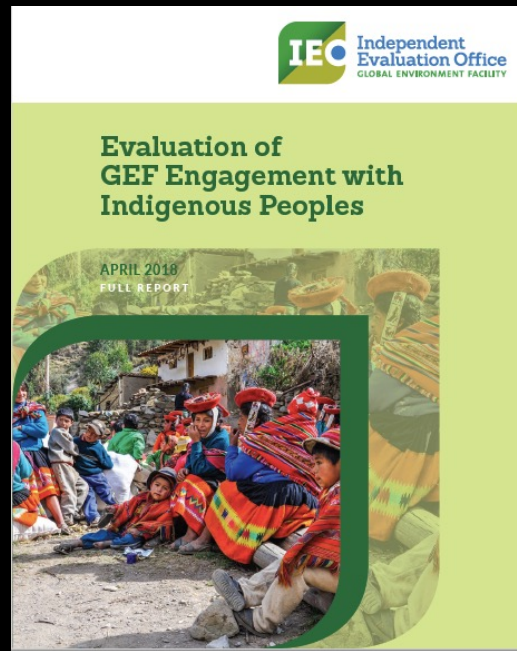


Figure 1 Some of the many threats to ILK systems and lifeways of Indigenous Peoples and local communities (outer boxes) and the interconnected consequences for social and ecological dimensions (central oval). Drivers of change can exert their influence quickly or over time in subtle and pernicious ways. Many of these linked threats and consequences are highlighted in this paper's case studies and 15 recommendations.

IPLC and GEF in historical perspective: slow to incremental to [a need for] step-change



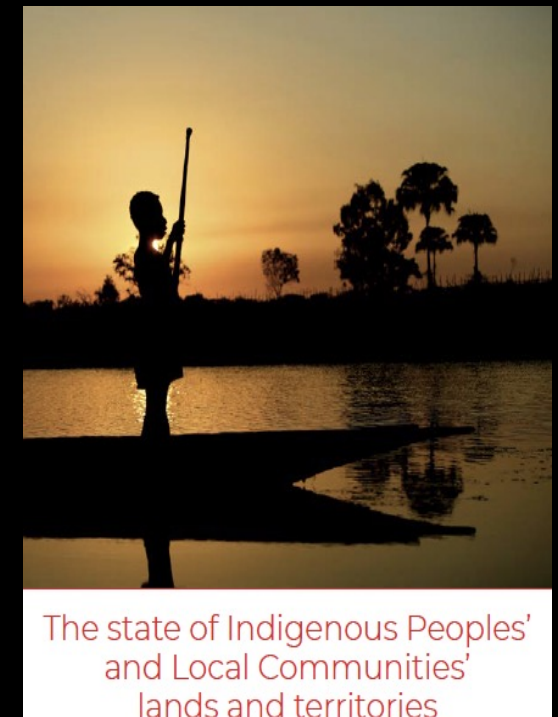
2005



2017/ 2018

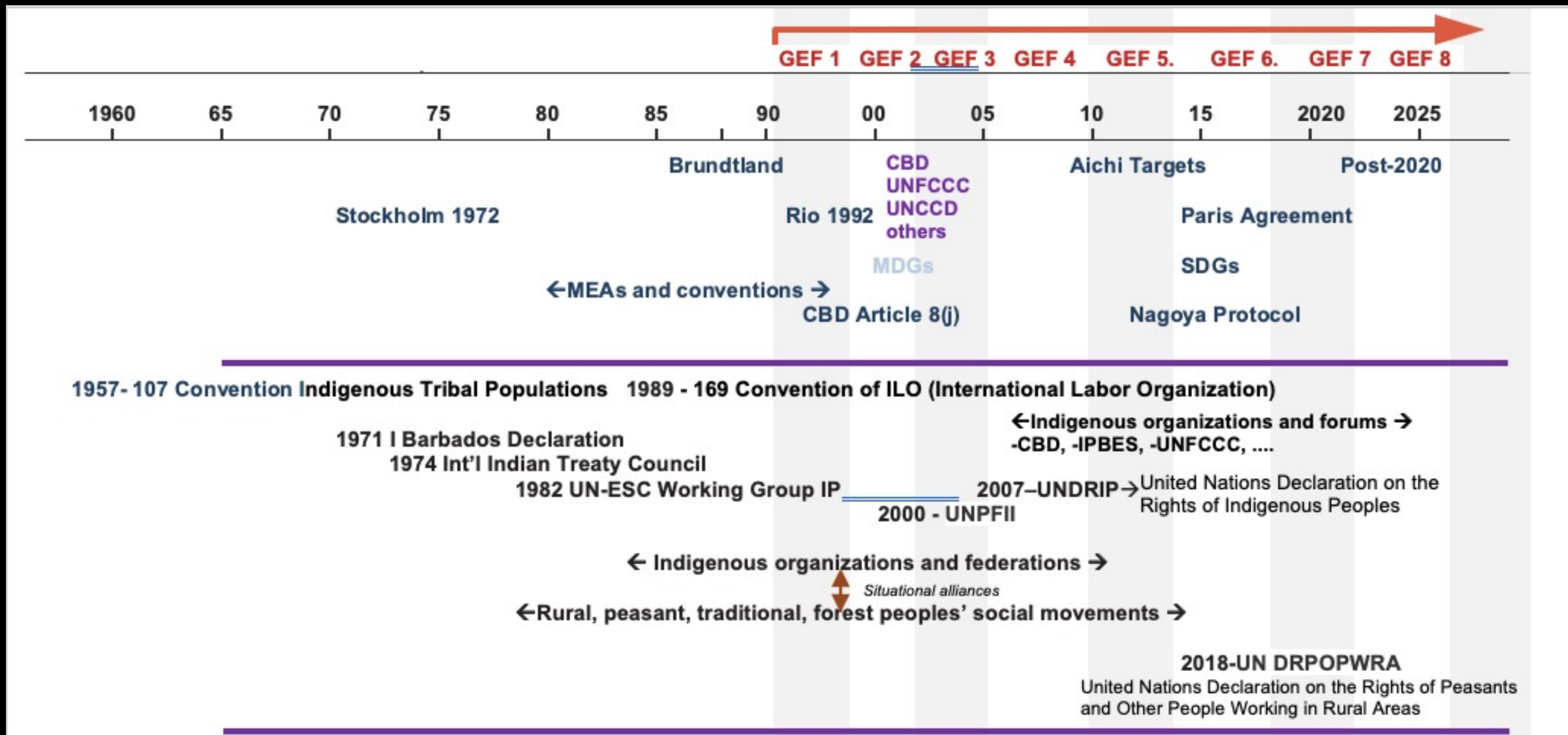


2019



2021

A long history of struggles for recognition



Development of institutional arrangements, networks, and knowledge infrastructure critical to global environmental governance

A learning process and work in progress ...

← ILK → from Appropriation to Recognition to Sovereignty

←Utilitarian – Ethnoscience– Worldviews and Values – Management – Governance →

← Indigenous institutions for research and environmental management →

IP - LC → Advantages and challenges of inclusive terminology
No equivalence in rights

→Inclusion in biodiversity, climate assessment

GEF 1 GEF 2 GEF 3 GEF 4 GEF 5. GEF 6. GEF 7 GEF 8

Protected Areas. → Sustainable Use →CBM → OICMs

Top-down conservation → Improvements consultation →?Co-design

Mitigation over prevention
IP as beneficiaries
Lack of distinction IP and LC
Flawed 'alternative livelihoods'
Lacking consultation FPIC,
participation decision-making

Indigenous Peoples Task Force
Indigenous People Advisory Group
(IPAG)
Principles and Guidelines for
Engagement with IP
Minimum Standards and Social
Improvements in project performance

Lack attention larger drivers. → Increasing pressures
→Landscape connectivity, governance conflicts
→Environmental-climate feedbacks exacerbated
→unequal distribution of economic benefits-costs

Review FPP 2005,
IP and GEF

GEF 2018, Eval
Report 119

[market-based approaches]

Bio-prospecting

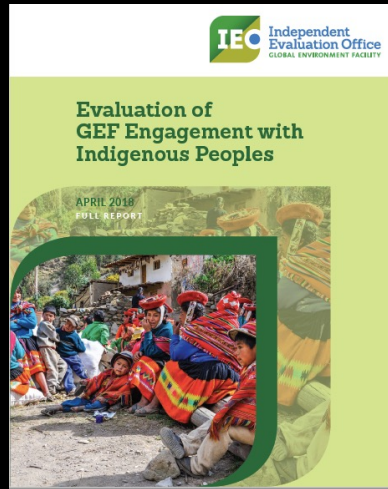
REDD+ PES Bio-Economy

Significant advances in governance procedures, project standards, and institutional mechanisms: consolidating implementation and match funding to contributions

Previous Evaluations of GEF and IPLC still hold and need further action

Significant improvements since 2005 (FPP 2005)

2017 / 2018



Strengthen **FUNDING** for projects and organizations.

Update **POLICIES** to reflect best practice **STANDARDS**

STRENGTHEN IPAG's role

Facilitate **DIALOGUE** with governments

Monitor **APPLICATION** Min Standard 4

2019



Envision **PATHWAYS** of change and address **DRIVERS** of degradation

Consider **CURRENT RIGHTS AND CAPABILITIES**...

Support **COMMUNITY-BASED MANAGEMENT** connections at different levels

Secure land and resource **TENURE**

Enhance **FINANCIAL; AND NON FINANCIAL** benefits

Strengthen bottom-up **GOVERNANCE LINKED TO** higher scales

2021



The state of Indigenous Peoples' and Local Communities' lands and territories

Broaden and **STRENGTHEN RIGHTS**

Enhance **DOCUMENTATION/DATA**

Expand sustainable **FINANCIAL** and **CAPACITY BUILDING**

Expand **CONSERVATION MECHANISMS**

Expand **RESEARCH** and **IPLC leadership**

Actions on the ground

Let me illustrate with examples from Amazonia the relevance of various recommendations highlighted in these reports



Indigenous Peoples and local communities promoting innovations and confronting pressures on the ground in Amazonia

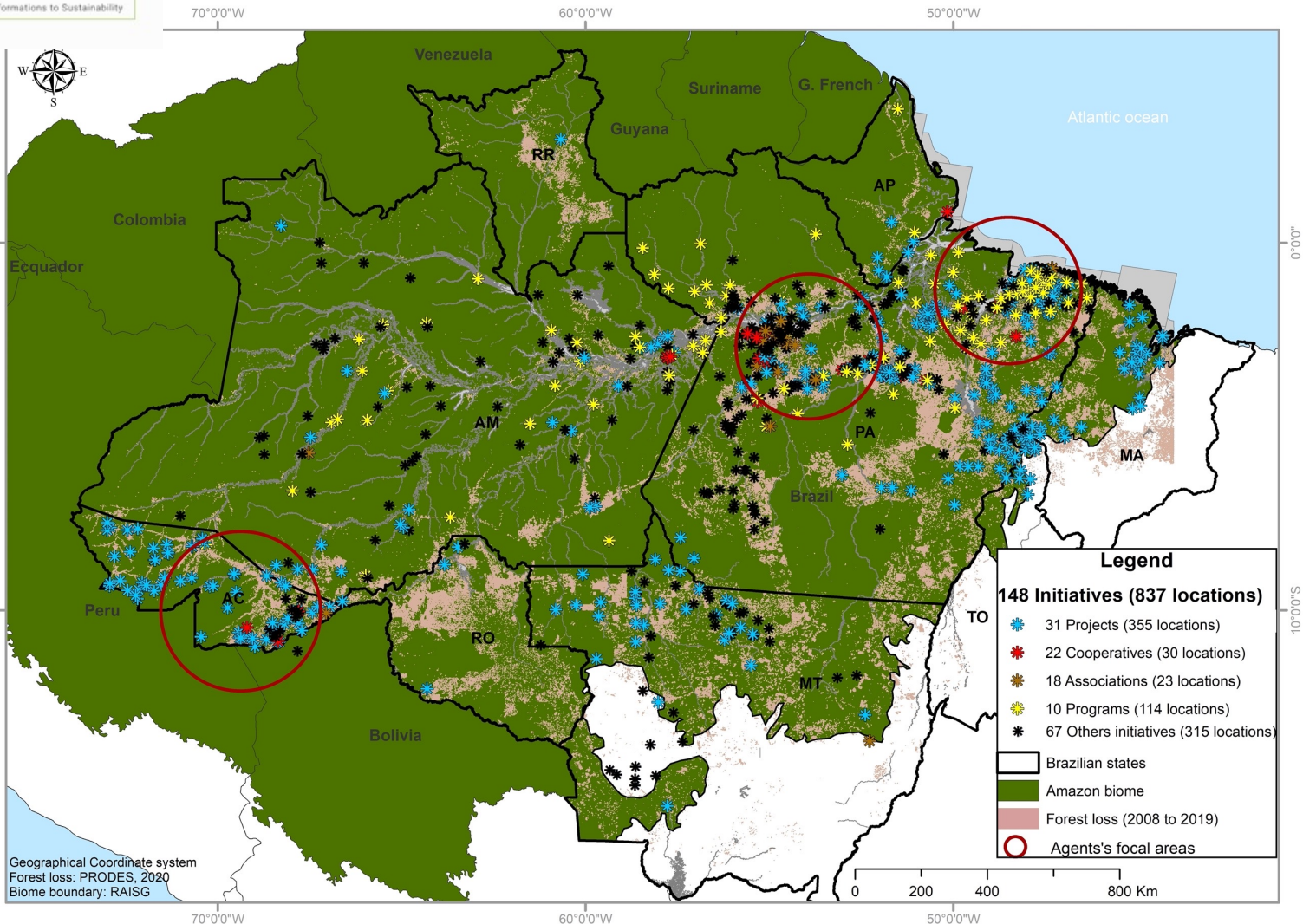




AGENTS

Amazonian Transformations to Sustainability

The Agents project: Identifying, understanding, making visible place-based sustainability-oriented initiatives in Amazonia



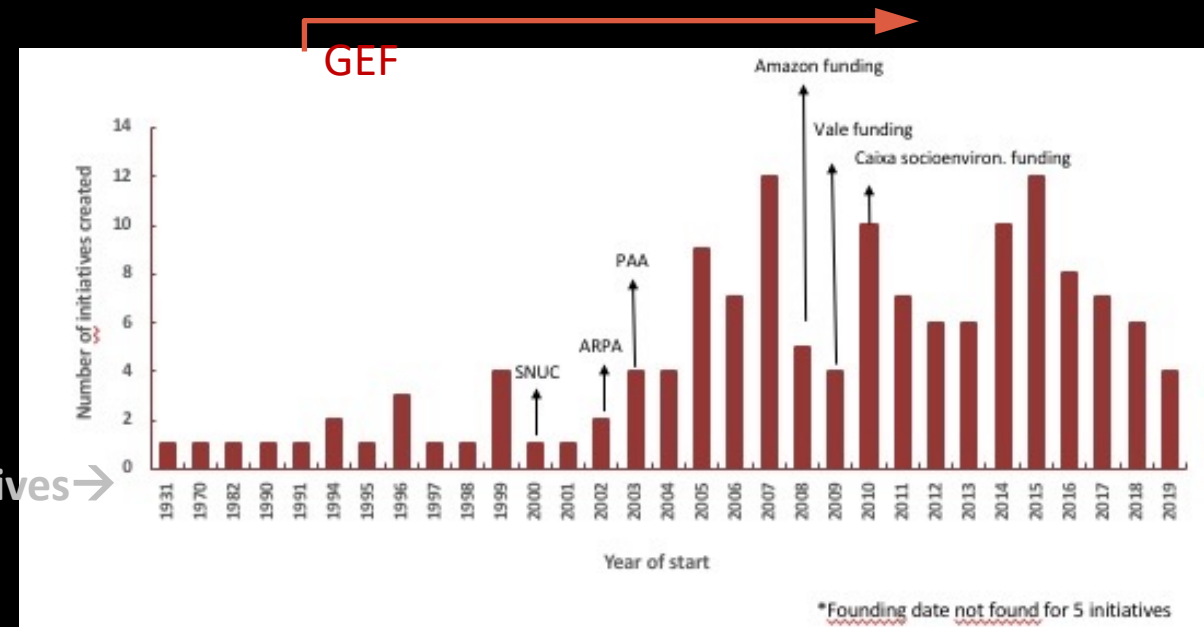
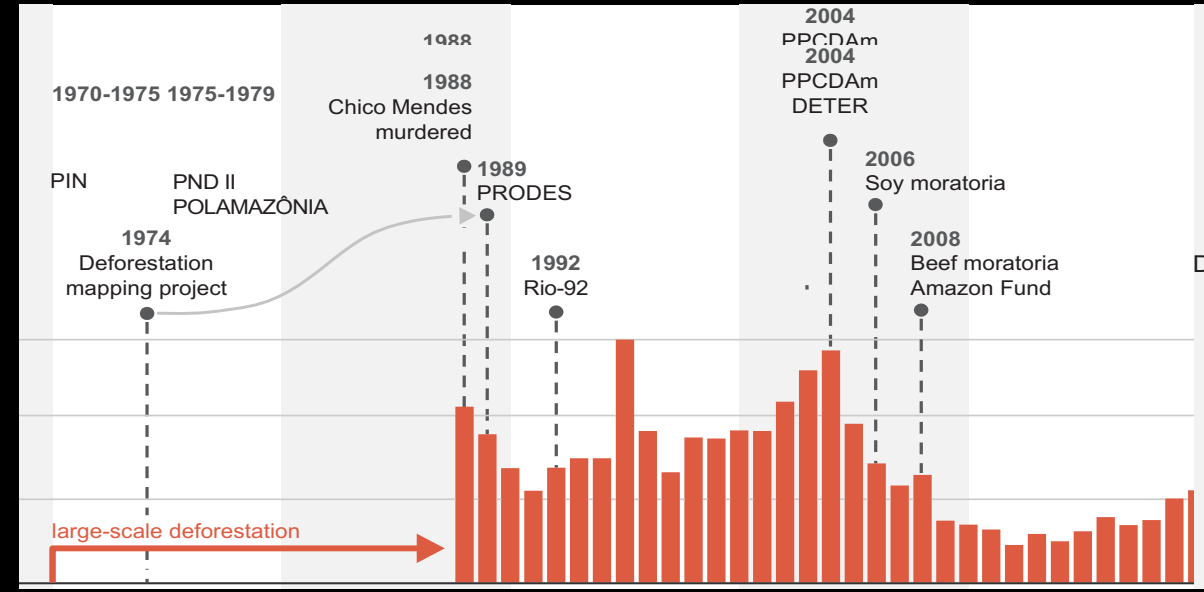
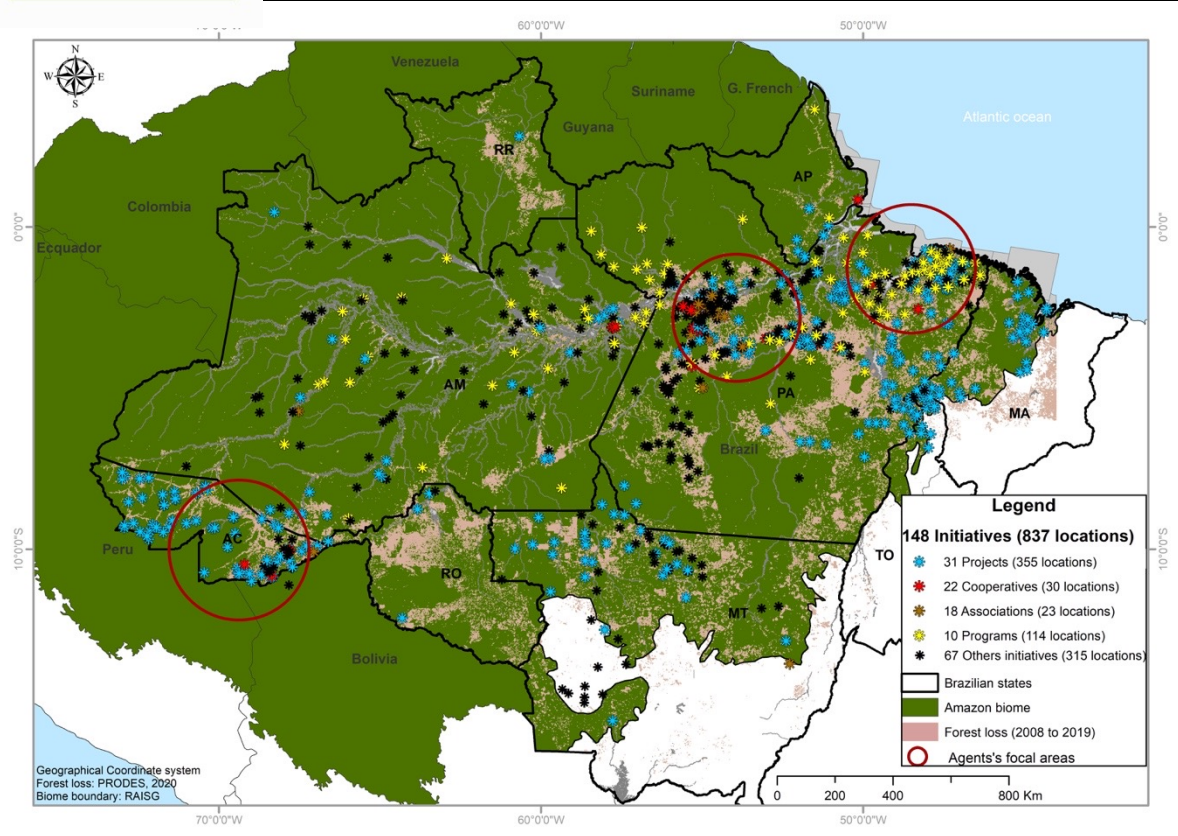
- 200+ initiatives
- In over 900 localities
- 184 municipalities
- Production systems
- Resource management
 - Restoration
- Territorial governance
 - Associativism
- Value-aggregation
 - Market access



AGENTS

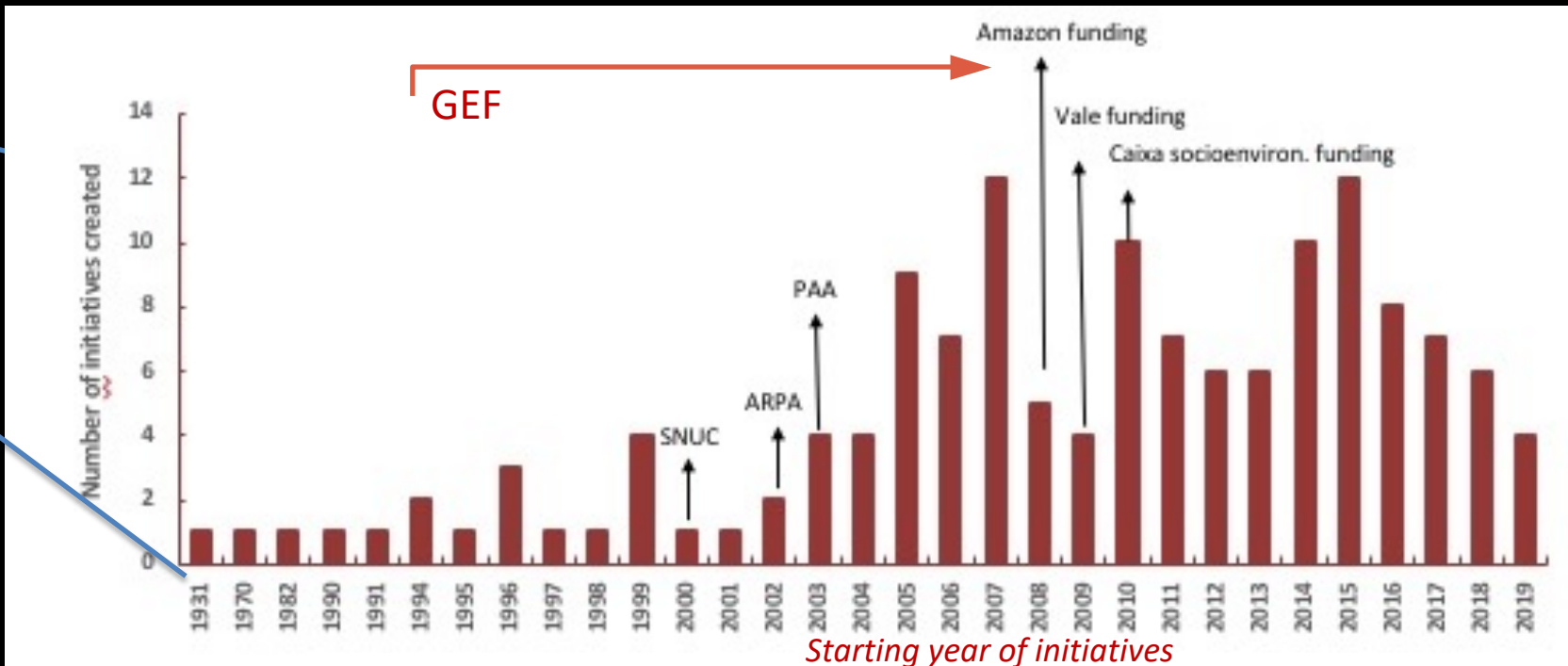
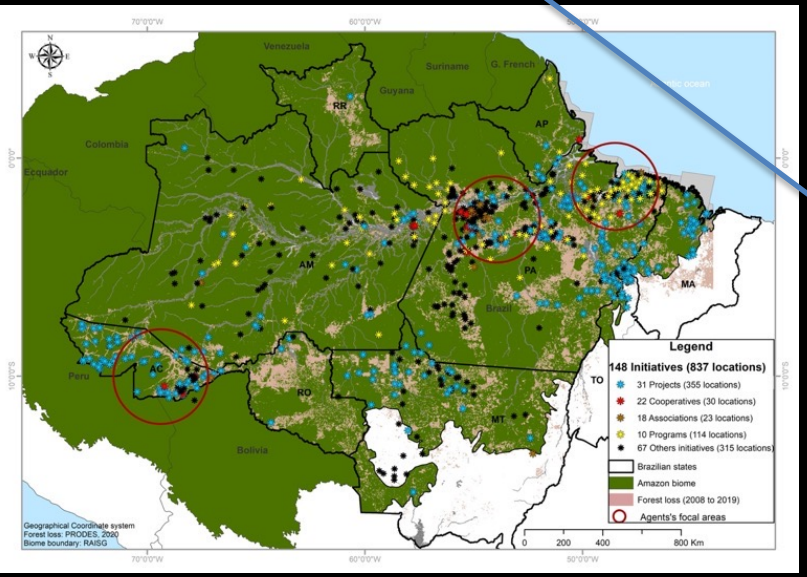
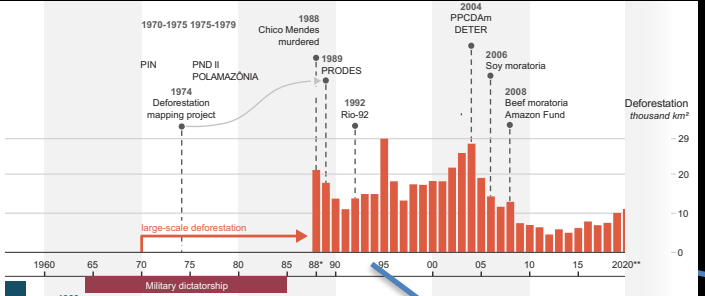
Amazonian Transformations to Sustainability

Emerging place-based responses to regional transformations



Starting year for initiatives →

The regional expansion of IP LC initiatives



- Enthusiasm
 - Pilot projects
 - Failures and frustrations
 - Learning and experience
 - New alliances and partners
 - New pressures
 - New Opportunities



AGENTS
Amazonian Transformations to Sustainability

Examples of place-based initiatives in the Brazilian Amazon



Fallow enrichment, bee-raising, agroforestry transition



Women's association, home-gardens, new products, micro-industries



Cooperative forest management, certification, value-aggregation



Community-based tourism



Micro-industry latex, art-crafts, medicinal oils



Micro-industry latex, jewelry, commercialization cooperative



Community seedling nursery, pasture restoration, agroforestry

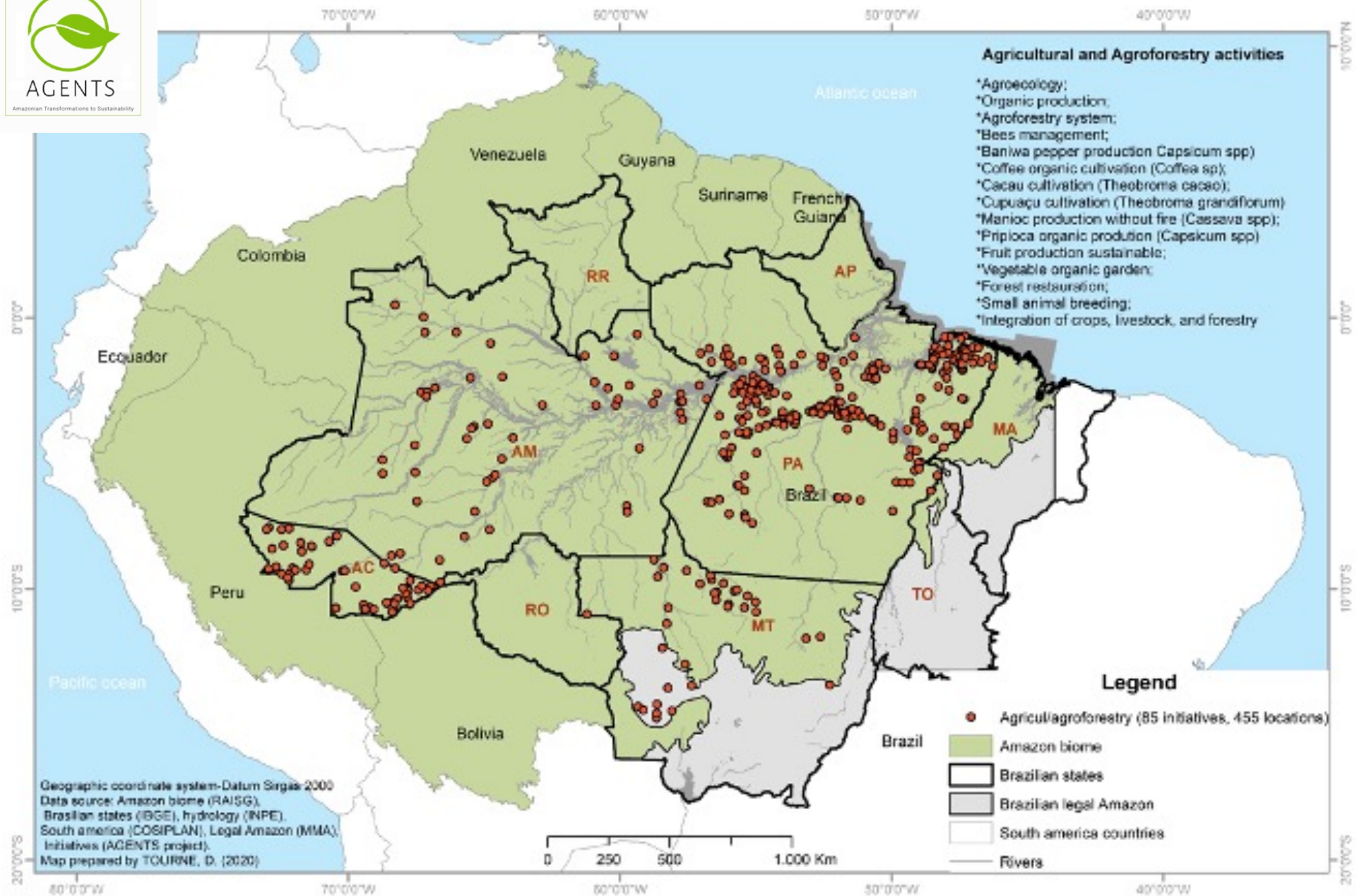


Mid-scale agroforestry and consortium agriculture

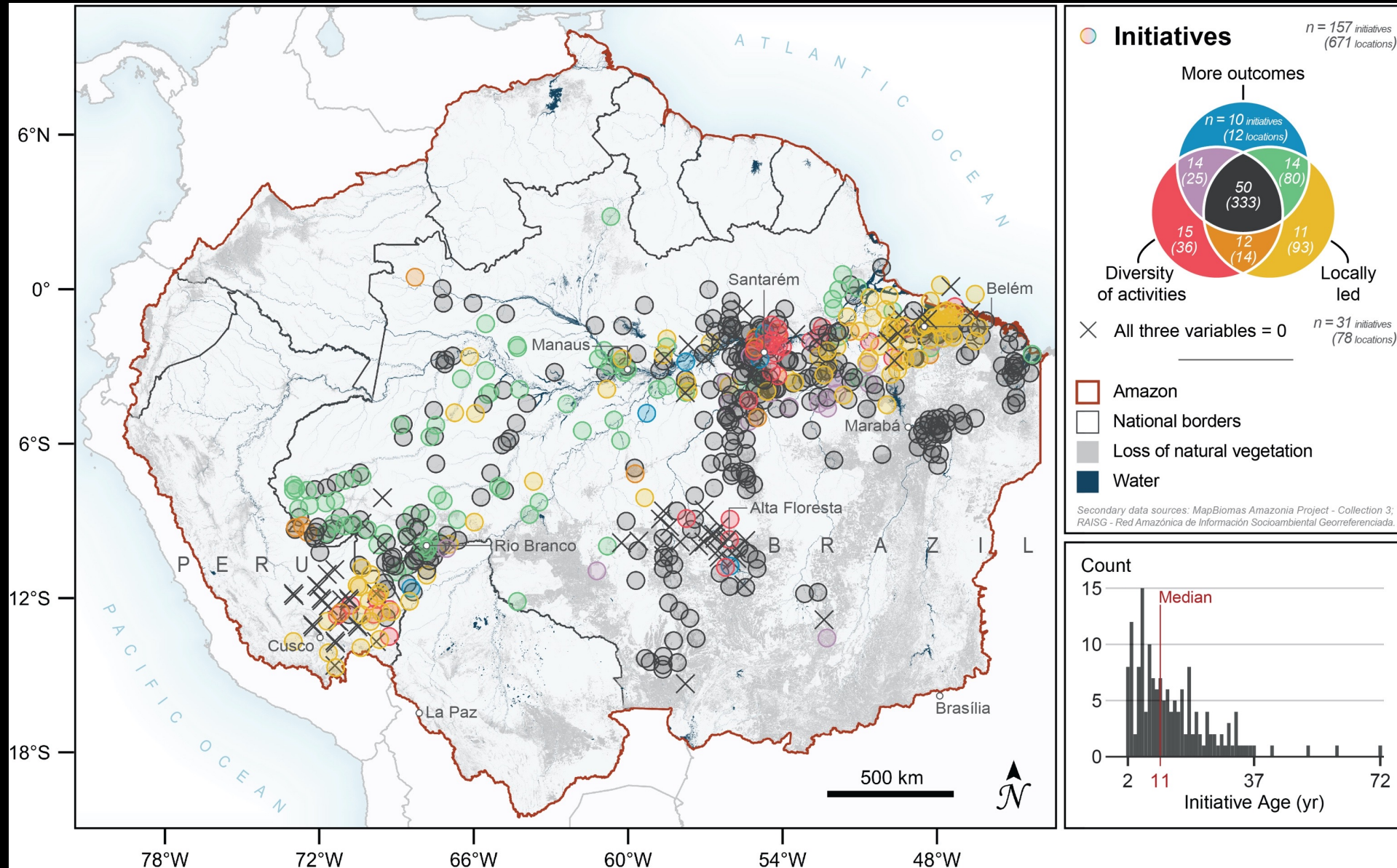


AGENTS

Amazonian Transformations to Sustainability

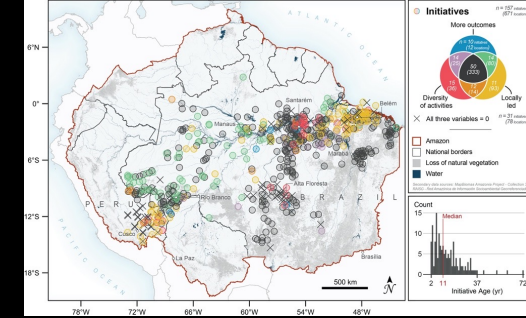


What did we learn in terms of conditions facilitating successes and advances?



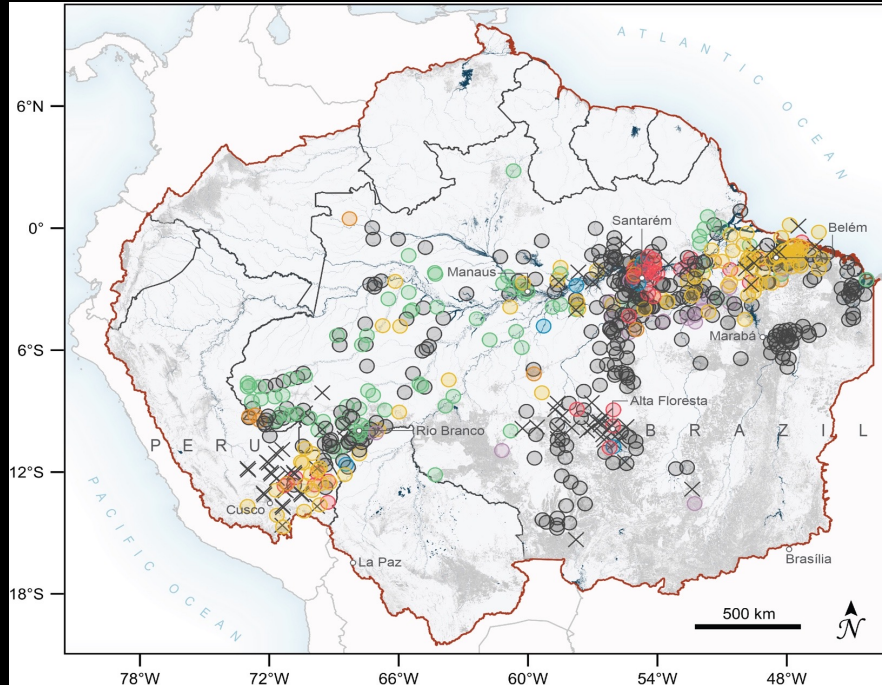
advances?

Local leadership, alliances and diverse partnerships improve the successes of place-based initiatives



- Take into account **local knowledge, visions and motivations** as well as **adaptive learning from past failures**
- **Diversify activities and integrate production systems, processing and market, and supporting institutions**
- **Establish partnerships with diverse sectors:** social movements, NGOs, private companies, governments at multiple levels, universities, churches, ..
- **Connect with actors and networks at multiple levels ..**
- Are working collective to **overcome logistical bottlenecks**

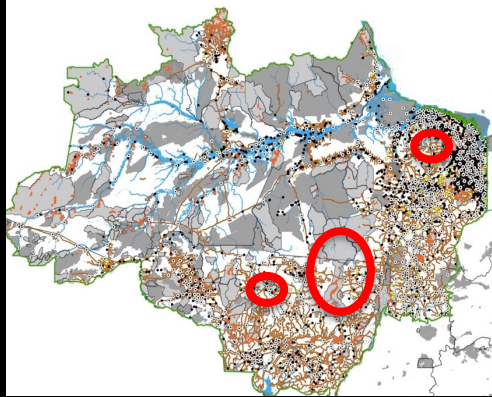
What did we learn in terms of conditions limiting or overwhelming successes and advances?



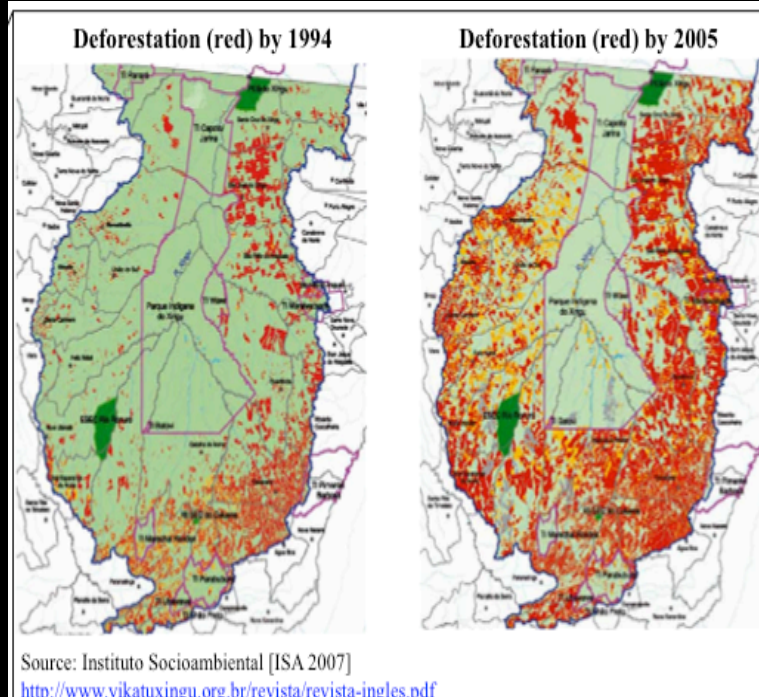
1-Mismatches of landscape governance arrangements

2-Mismatches of economic benefits and costs

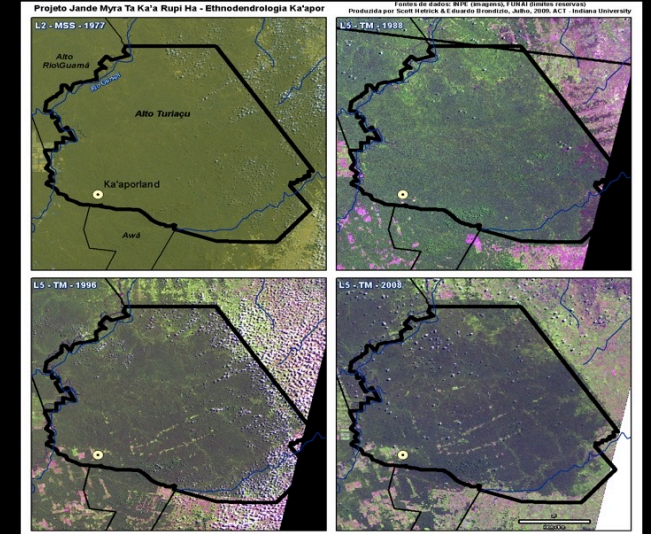
Island of Landscape Governance: Connectivity and the limits of level specific environmental governance



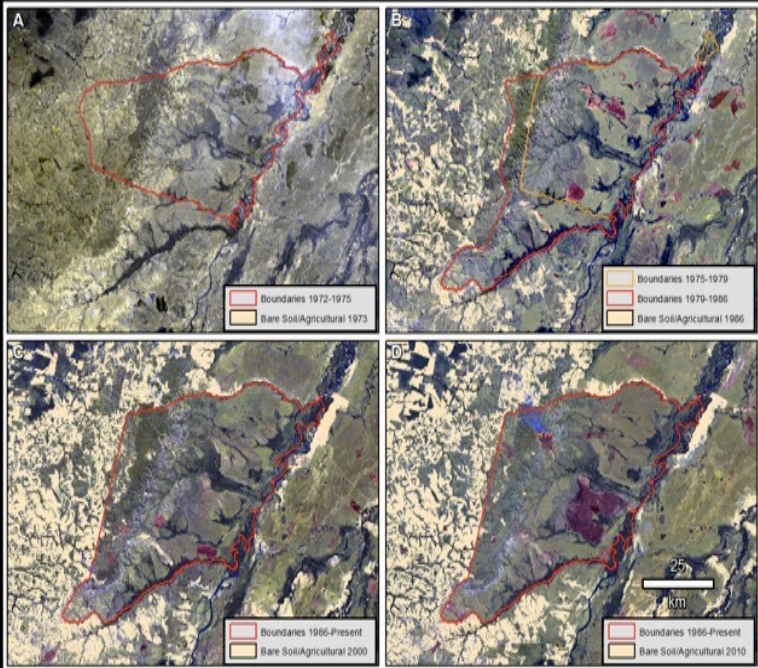
Xavante Indigenous Reserve



Xingu Indigenous Park



Ka'apor Indigenous Reserve



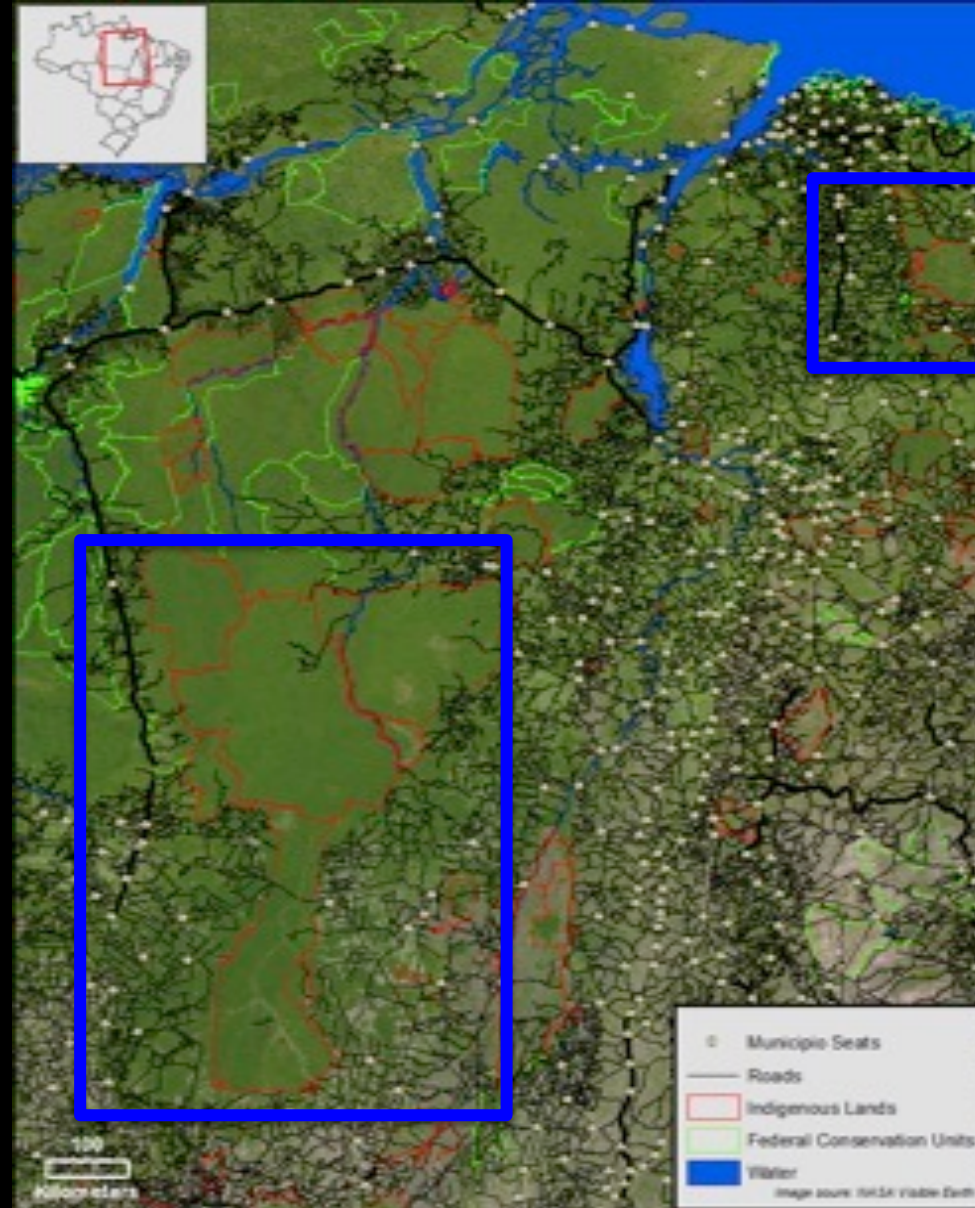
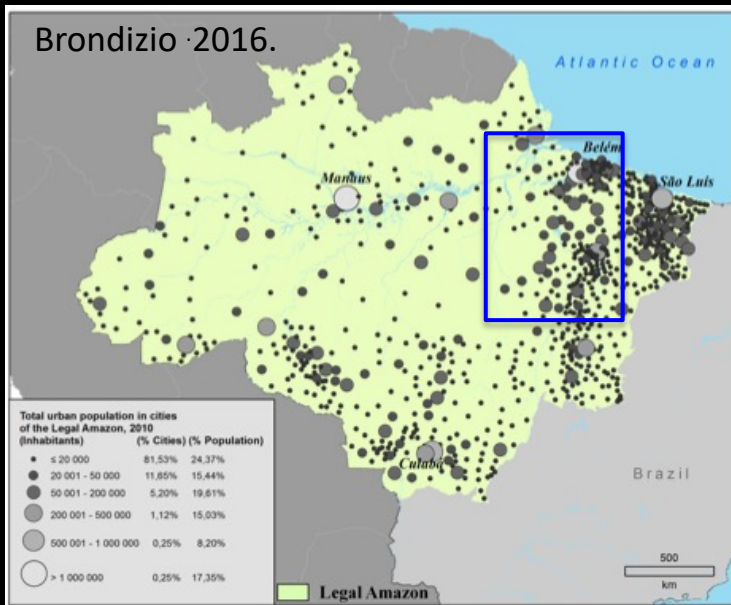
Conservation areas and CBMs have co-evolved with expanding urban networks, commodity extraction, and large-scale agriculture

Pressures outside - inside:

- Territorial fragmentation
- Air and water pollution
- Illegal activities
- Violence

- Mining illegal and legal
- Logging
- Drug trafficking

- Extended droughts
- Increasing landscape flammability
- Changing flooding patterns



Acai agroforestry systems: The most inclusive and landscape transforming economy in the Amazon



Locally-developed acai agroforestry systems: intensification and regional expansion

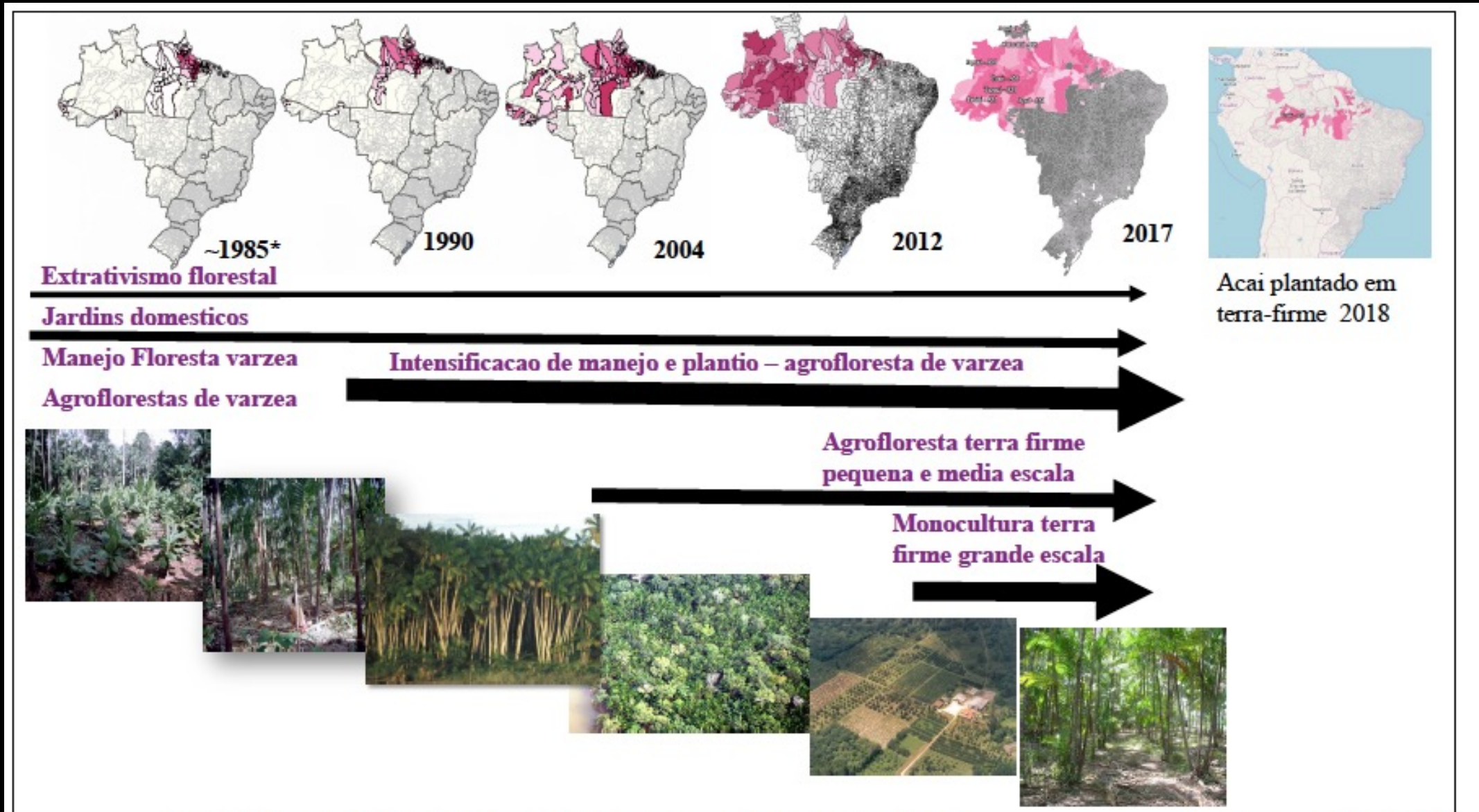
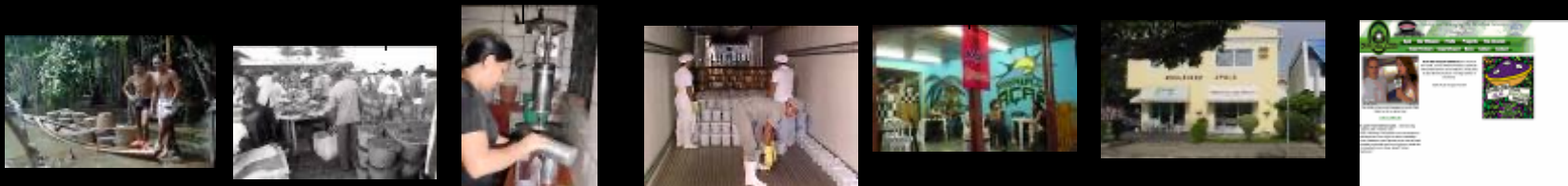
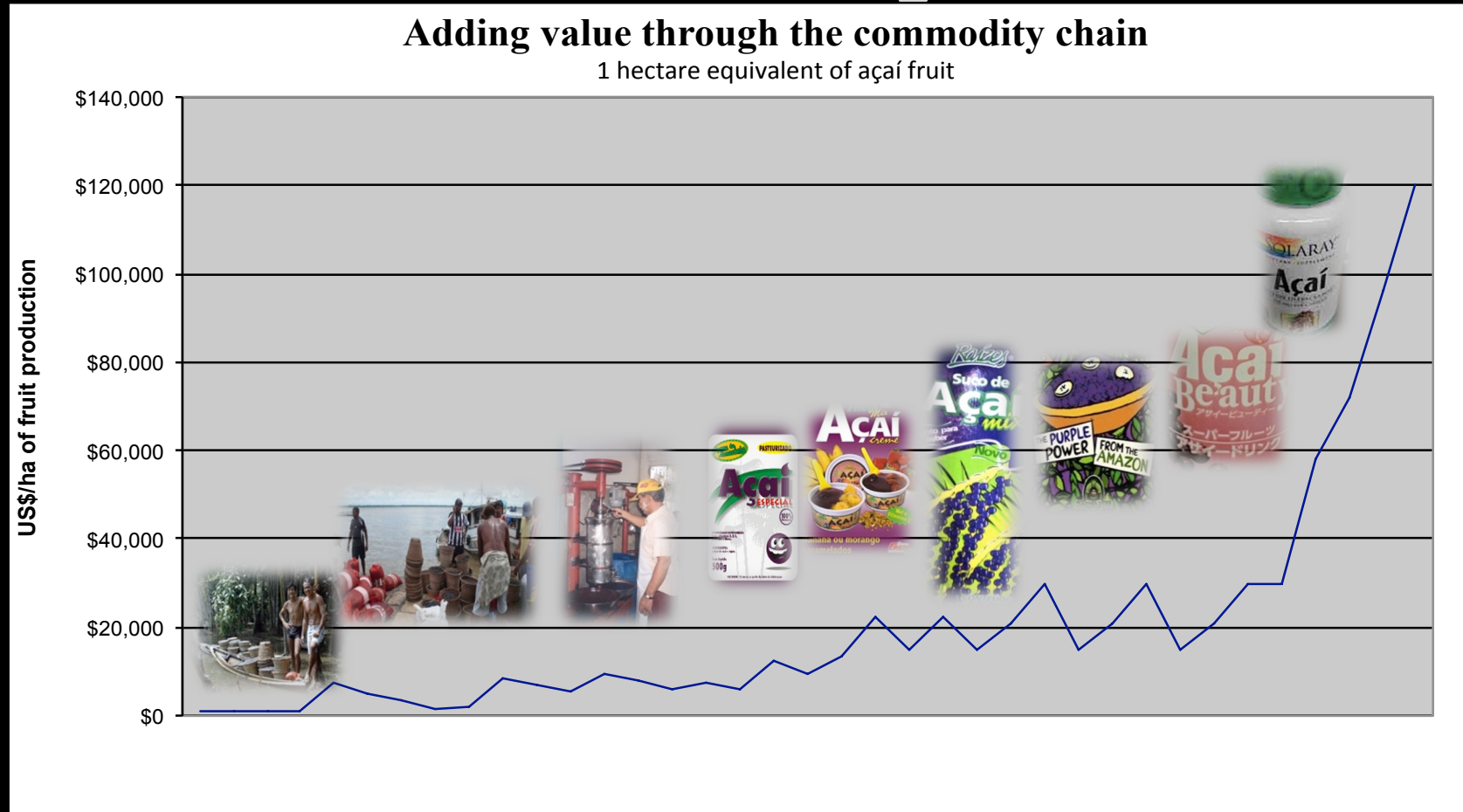


Figura 3: Expansão de sistemas produtivos e regiões produzindo fruto do açaí

Fonte mapas: IBGE/SIDRA

Value aggregation proportional to the distance the fruit travels away from the region



Cooperatives and community-based micro-industries aligning sustainable production, value aggregation, and access to markets



**Cooperativa Co-Fruta
Abaetetuba, PA**

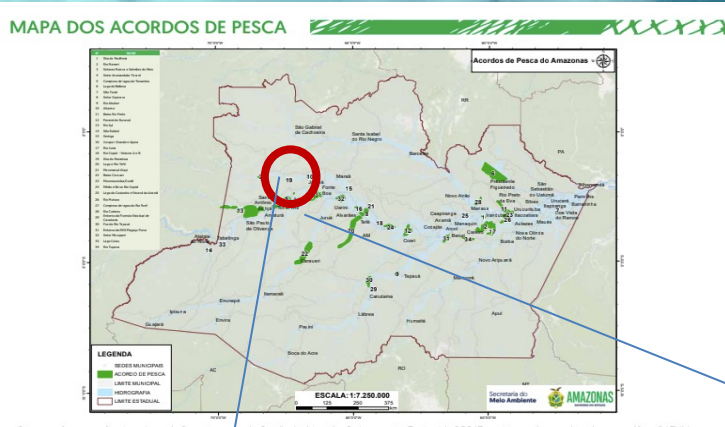


**CAMTA' Cooperativa,
Tome-Açu, PA**

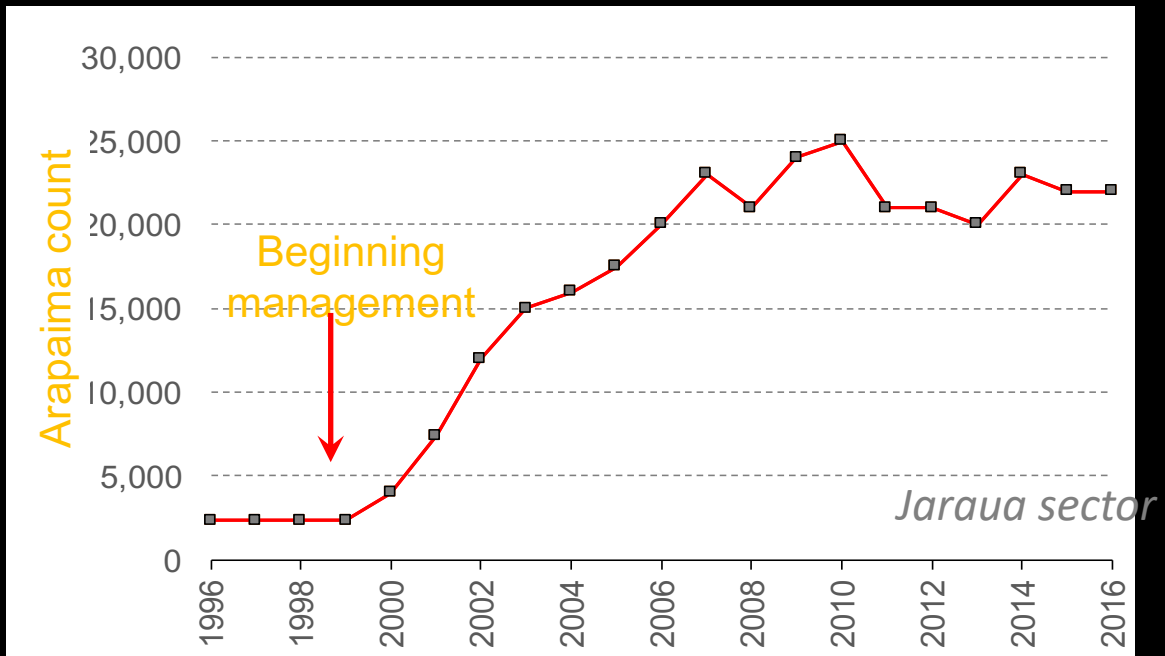


**Corpus Christi community,
Mojuí dos Campos, PA**

Community-Based Management of Arapaipa – State of Amazonas



✓ “Success story, but not perfect!”



~5,500 fishers formally involved in CBMs in near 500 communities

Community-Based Management of Arapaipa – State of Amazonas



Community-based management of the pirarucu (*Arapaima gigas*) fishery in Amazonia has saved the species from the brink of extinction. Credit: Ricardo Oliveira/AFP via Getty

✓ **Classic common-pool-resource dilemmas of appropriation and provisioning:**



- ✓ High monitoring costs
- ✓ Low price paid to fishers
- ✓ Widely shared nature's contributions to society



Mismatch between

← Appropriation and Provisioning →

"The fish of change"

- Secured lake/resource rights
- Recovery fisheries
- Improved income
- Community infrastructure, services
- Advanced organization
- Large scale benefits in ecosystem services

High costs of monitoring:

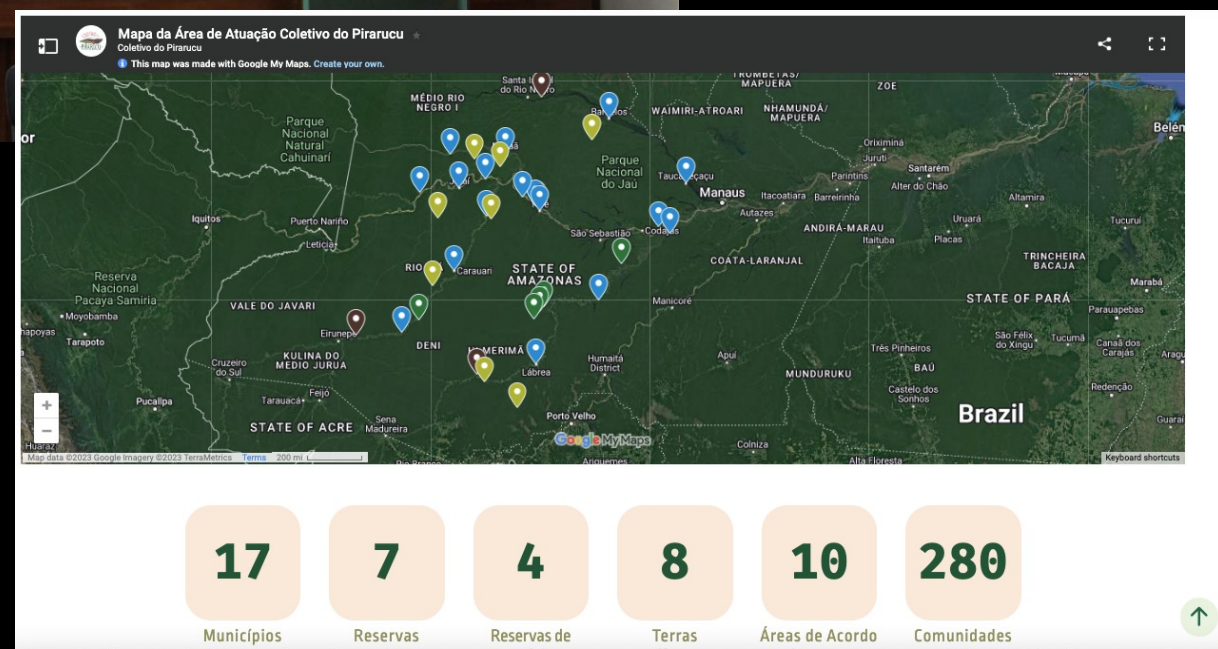
- Day to week long monitoring and policing trips [often involving entire family]
- Gasoline, Food, equipment
- Confrontation illegal fishing

Low price for high quality fishing:

- long-term depressed price
- Major logistical constraints (cold storage, transport)
- dependency on intermediaries



The emergence of supra-local organizations supporting improvement in practices, market access, and shared logistics to improve the position of smallholder producers within food value chains



<https://coletivodopirarucu.org.br/>

These examples support previous recommendations and bring an added emphasis on...

- **Alignment of territorial governance across scales:** Connect place-based initiatives through support for territorial level planning and cross level governance arrangements
- -Supporting **networking and coordination** of place-based / communities
- -shared **knowledge platforms**
- -support **local monitoring systems**
- -support shared **logistical infrastructures**



Community-based management of the pirarucu (*Arapaima gigas*) fishery in Amazonia has saved the species from the brink of extinction. Credit: Ricardo Oliveira/MCP via Getty

**A BROADER FRAMING FOR
IPLC's CONTRIBUTIONS is
needed: Recognize IP and LC as
major contributors to global
food production!**

A BROADER FRAMING FOR IPLC CONTRIBUTIONS is needed: Recognize IP and LC as major contributors to global food production!



- Food production is at the intersection of IPLC and the global economic and environmental agendas.
- Closely linked to IPLC's contributions to biodiversity conservation, ecosystem restoration, and climate change mitigation and adaptation
 - Supporting food security for a significant share of the world's population and supporting, albeit invisibly, regional and national economies.
- A significant portion of the pressures faced by IPLC are closely connected to food production; there is nothing 'hidden' about the costs of large-scale food production.

Continuing and accelerating decline in food production jobs

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Millions of jobs in food production are disappearing – a change in mindset would help to keep them

Halting the loss of jobs and knowledge from small-scale producers requires investing in rural sustainability, addressing poverty and inequity and ensuring the economic gains stay local. The benefits would be shared globally.

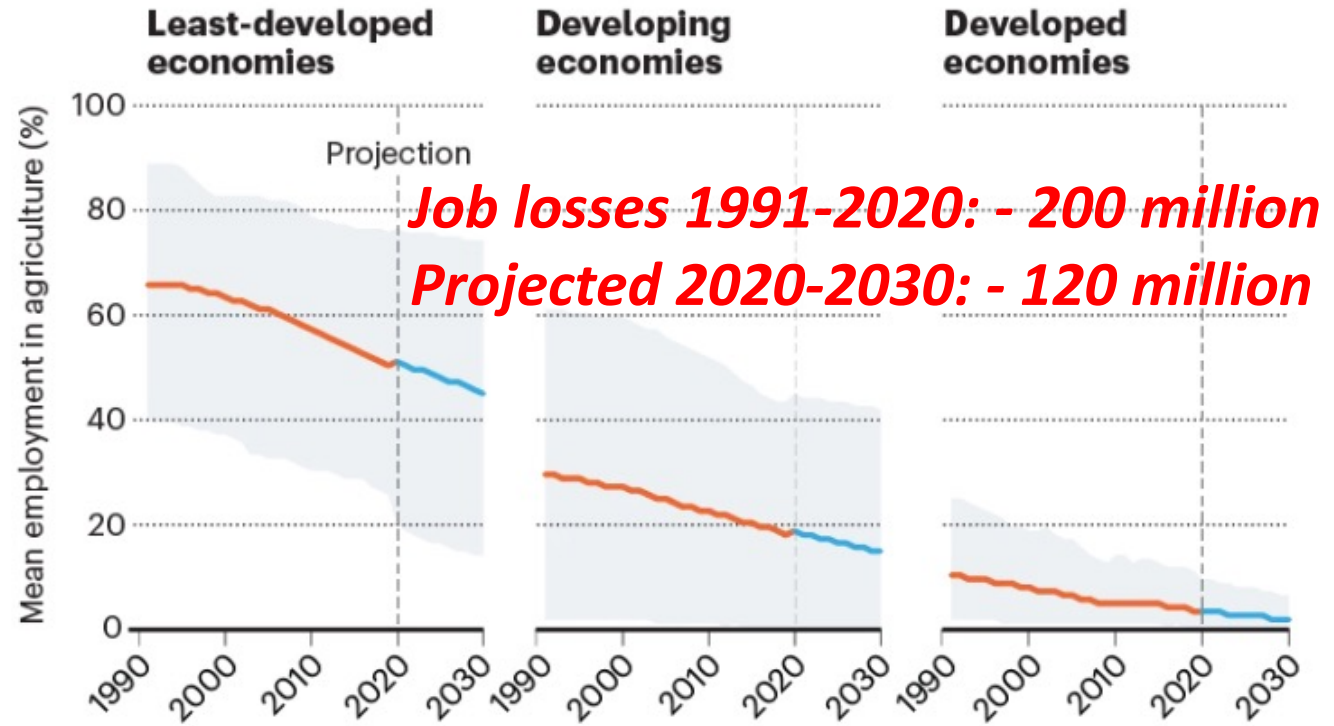
[Eduardo S. Brondizio](#) , [Stacey A. Giroux](#), [Julia C. D. Valliant](#), [Jordan Blekking](#), [Stephanie Dickinson](#) & [Beate Hen](#)

Include jobs in:

Agriculture, fisheries, pastoralism, forest management, wild species management and harvesting

THE DECLINE OF FOOD-PRODUCTION JOBS

Millions of jobs in food production have been lost globally in the past 30 years, and the trend is projected to continue. The problem is worse in least-developed economies, where many people depend on jobs in agriculture.



Grey shading shows variation in % employment among 180 countries in United Nations development categories; see Supplementary information. Country categorizations are as defined by the UN.

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Indigenous and smallholder production: Local to global importance, Lack of Recognition

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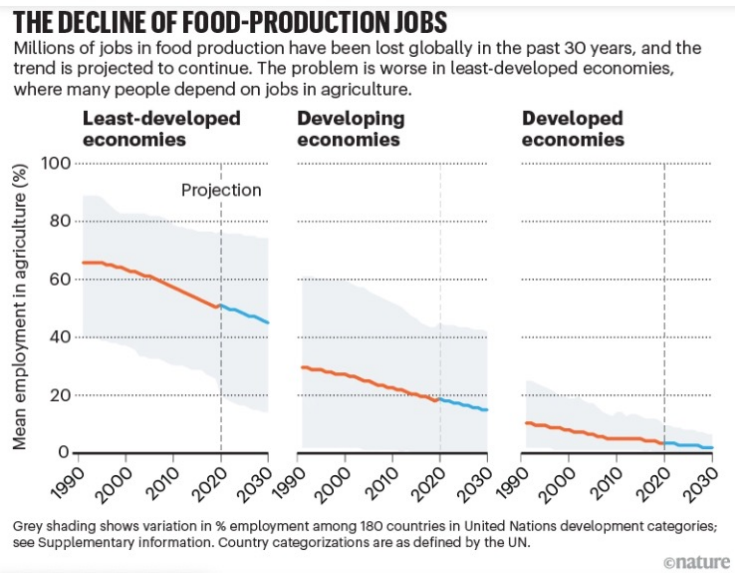
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Local producers sell their crops at a vegetable market in Mandalay, Myanmar. Credit: Gavriel



A smallholder collects a crop of peppers in southern Egypt. Credit: Khaled Desouki/AFP via Getty

At least **866 million** people employed; 26% global work force

89% among Rural populations

55% among Indigenous Peoples

Small-scale fisheries – 110 million jobs [more than the combined total of those in industrial fisheries, oil and gas production, shipping and tourism]

Pastoralists ~ 200 million people (both Indigenous and non-Indigenous people)

Smallholders (<2 ha) – 85% of farms and 35% global food production

Wild species harvesting for food, medicine, energy support 1 billion people globally

WHY A broader recognition of IP-LC as FOOD PRODUCERS is needed?

Is the disappearance of smallholder and indigenous food production an inevitable and inexorable consequence of larger economic structural and societal transformation?



Community-based management of the pirarucu (*Arapaima gigas*) fishery in Amazonia has saved the species from the brink of extinction. Credit: Ricardo Oliveira/AFP via Getty

Practical implications for project support and implementation

Support alignment of food production with biodiversity conservation and climate action

Make employment and value-aggregation activities central to any project involving IPLC

Involve youth in consultations: Support projects **promoting innovation economies** by and employment for the youth

From Hope to Change



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Seventh GEF Assembly

August 22-26, 2023

Vancouver Convention Centre

The **Seventh GEF Assembly** will mark a moment of change for the global environment

THANK YOU!

