

Key insights from the book 'Sustainable development and tropical agri-chains'

Estelle Biénabe · Alain Rival
Denis Loeillet *Editors*

Sustainable Development and Tropical Agri-chains

éditions
Quæ
Editions Cirad, IRMMAS, IRRA, IRD
www.quæ.com



Springer

Estelle Biénabe
AC&SD conference
12 December 2016



AGRICULTURES
ET DÉFIS DU MONDE
Collection Cirad-AFD

Développement durable et filières tropicales

E. Biénabe, A. Rival,
D. Loeillet, éditeurs

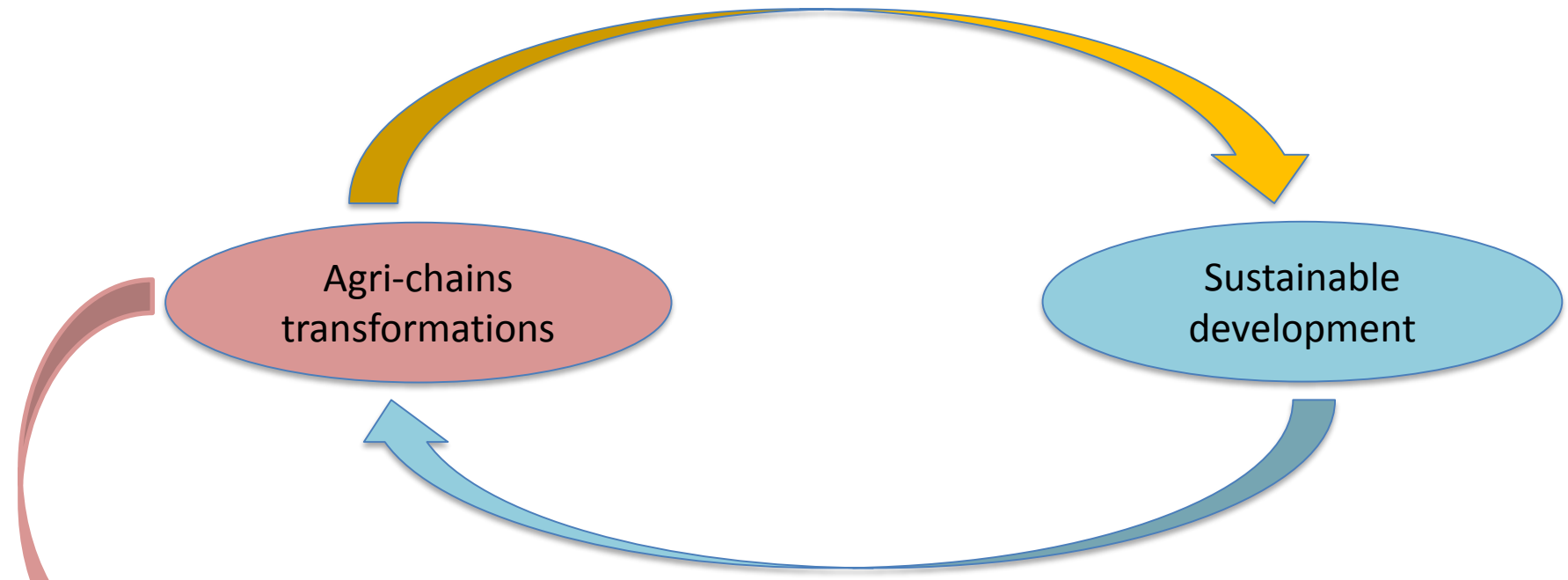


éditions
Quæ

Structure of the presentation

1. Scope of the book:
 - Exploring the different facets of the linkages from a research perspective
2. Key insights from the different facets:
 - Evaluation, innovation, regulation
3. Moving towards structuring an action and research agenda:
 - The conference as the next step

Exploring the different facets of the linkages between agri-chains and sustainable development



1. What does agri-chain mean from a research perspective?
 - Approach for solution oriented research centered on a product
 - Privileged means of dialogue between society and the research community that help scientific activities align with social demand

1. What does agri-chains mean for research?

A technical science driven perspective



Agri-chains as sequences of technical processes and transformations (in form, place or time) to obtain a product (supply chains)

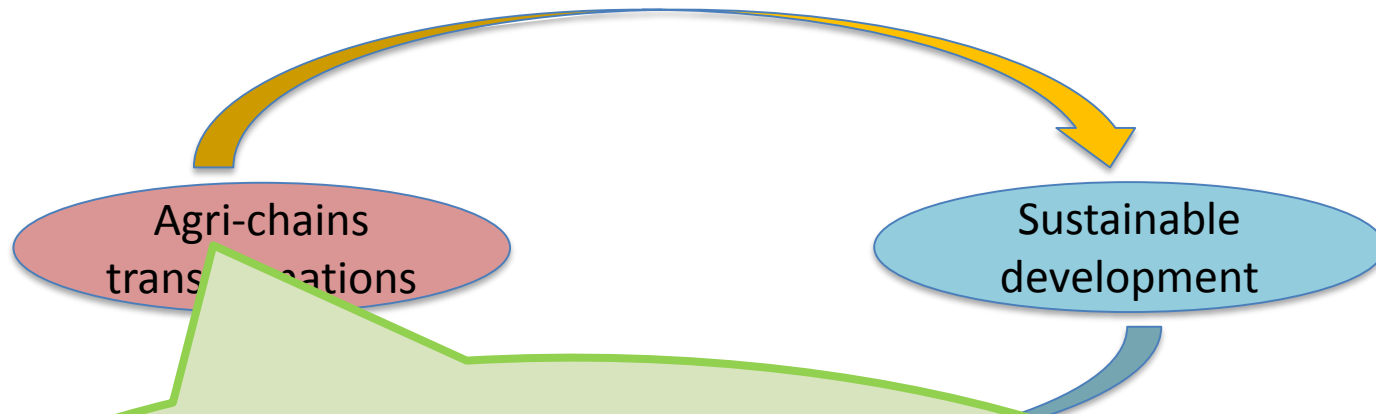
Agri-chains approaches = based on partnership with agri-chain operators

→ Drive technical innovations towards quality improvement, resource use efficiency, etc.



1. What does agri-chains mean for research?

A social science perspective



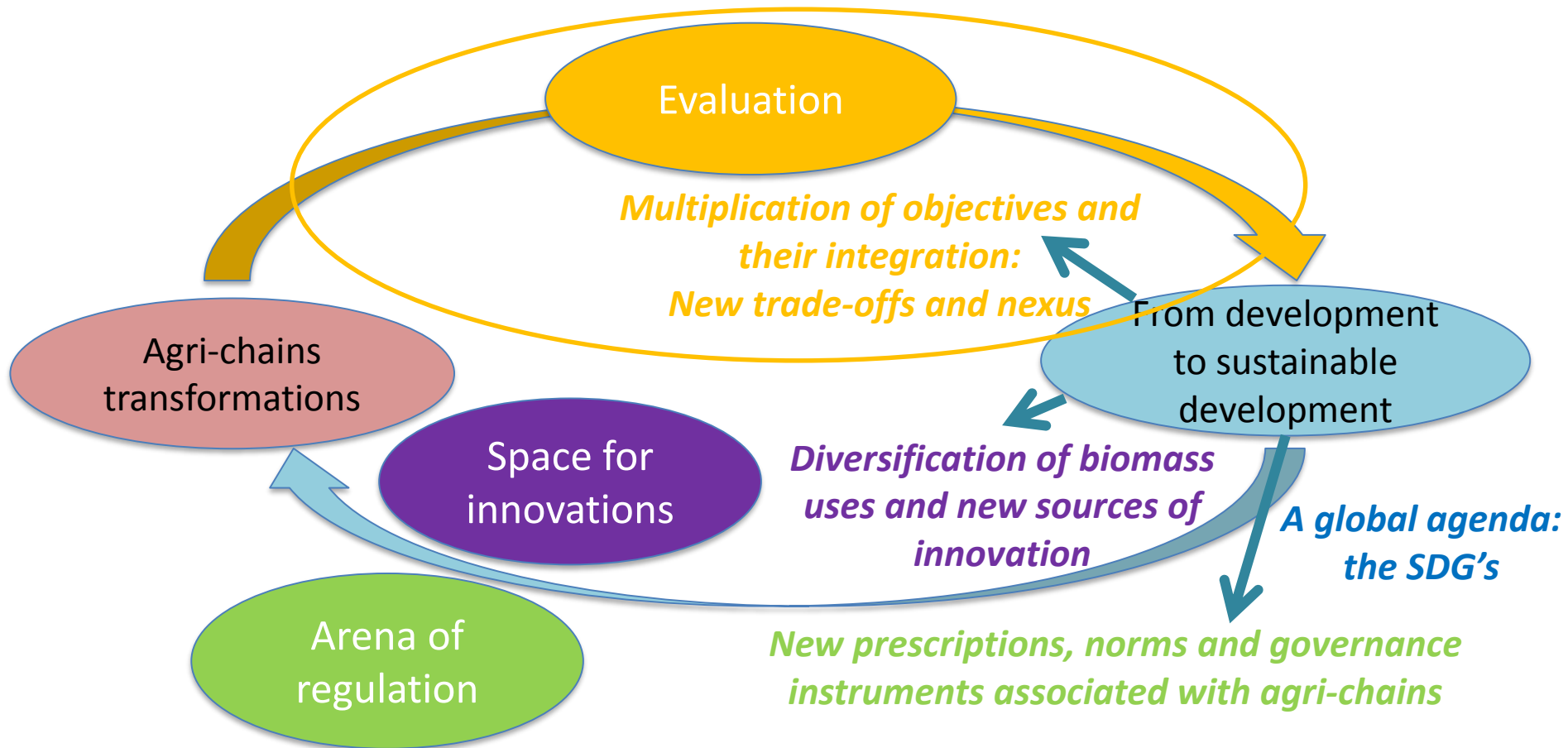
Agri-chains as forms of coordination between actors from production to consumption of a specific commodity (value chains)

Support public or private decision making towards competitiveness, sharing of added value, etc.



1. Agri-chains transformations

2. What does sustainable development change?



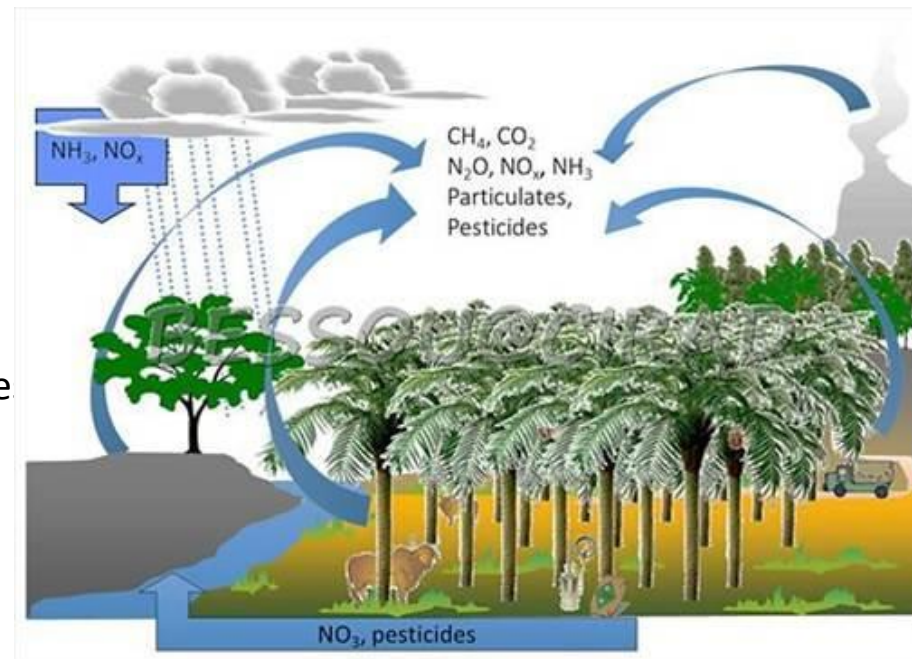
Agri-chains and evaluation of sustainability

Methodological challenges:

- Renewing the conception of agri-chain performance to evaluate economic, social and environmental implications
- System boundaries: which effects and causality chains to consider? At which scale?
 - Connectivity between spaces, between activities, lagged effects

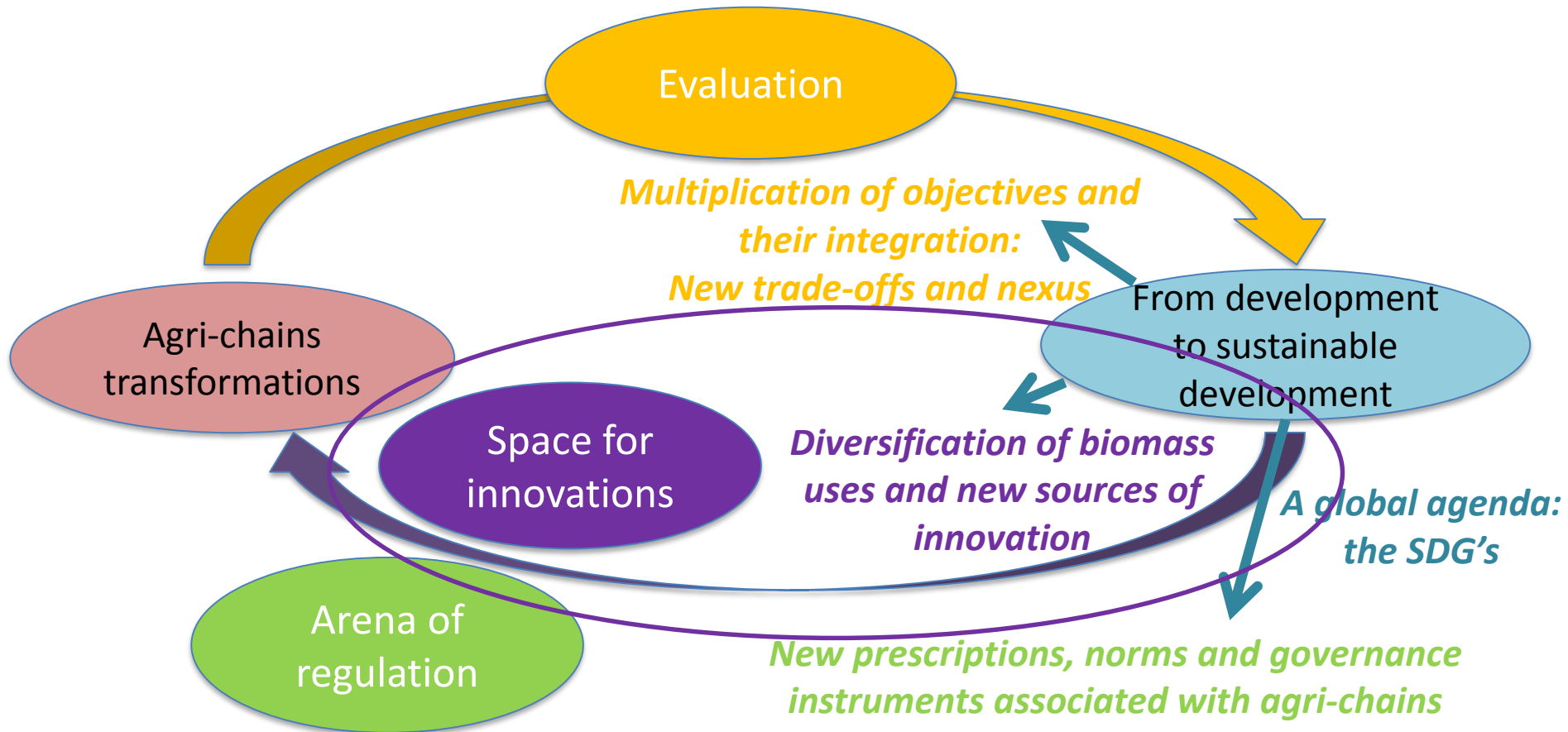
A focus on life cycle assessment

- Capacity to integrate impacts along the agri-chain
- And to assess impacts at global level
 - with potential to link up with planet boundaries (sustainability science)
- But disconnection from local environmental conditions



Source: Bessou C., 2015

Agri-chains as a framework for innovation in the face of sustainable development



Agri-chains as a framework for innovation in the face of sustainable development

- Interlinked technical, political and organizational choices and processes:
 - E.g. choices related to bioenergy

Two equations:

1. **Energy transition:** biomass versus fossil fuels
2. **Food security:** competition of agricultural production, land and co-products between food and non-food uses

Two underlying trade-offs:

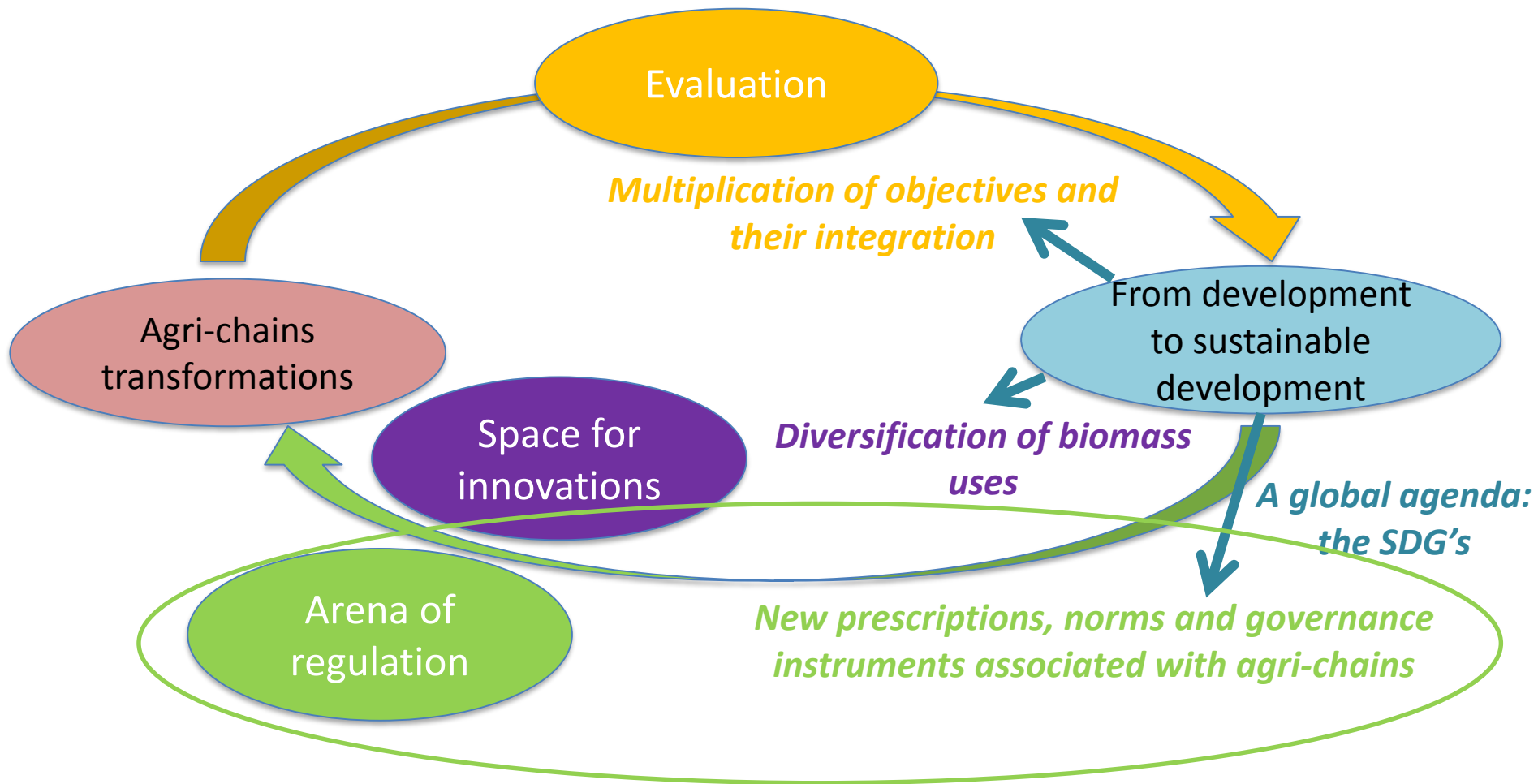
1. Use of dedicated crops versus by-products
2. Alternative uses of land

+ technical change modifying constraints and opportunities

Agri-chains as a framework for innovation in the face of sustainable development

- Interlinked technical, political and organizational choices and processes
- Agri-chains as a frame for integrating disciplines and knowledge
- Supporting transitions → trajectories of adaptation and learning:
 - Series of design and evaluation cycles
- Contextualizing and co-producing knowledge with other stakeholders
- Renewal in the engineering of innovation and building of partnerships:
 - Embeddeness of research processes in multistakeholder platforms
 - Participatory tools: modelling, production of scenarios, etc.

Agri-chains as arenas of regulation towards sustainable development



Agri-chains as vector of development, and now of sustainable development

Reaffirmation of the relevance of agri-chains

- As vector of inclusive development:
arenas for regulating relations between farmers and downstream operators:
 - Interprofessional arrangements, contracting, collective action, etc.
- Ensuring impact at scale:
 - Capacity of large corporations to act globally

Behind agri-chain development: specialization processes

1. On a particular plant or product:
 - National specializations of Southern countries on a few export commodities
 - Piloted by specialized public or professional organizations
 2. Of different actors in specific functions of a product development:
 - Efficiency of the social division of labour
 - Related to the expansion of exchange spaces (A. Smith)
- The need to explore the implications of agricultural specialization: an illustration
 - No automaticity between increase of income and nutrition improvement :
 - ‘Sikasso’ paradox

Behind agri-chain development: the role of standards



- New wave of voluntary sustainability standards
 - to regulate long distance agri-chain expansion
 - in relation with increased concerns for sustainable development



- Historically, commodity standards
 - as instrument of long distance trade development and specialization
 - ↔ Disconnection between places of production and of consumption
- Private standards
 - as part of piloting chains (GVCs):
 - Publically to privately driven global agri-chains
 - Asymmetry of power and exclusionary concerns

Exploring the implications of sustainability standards and long distance trade

- Governance of standards and its implications as a renewed question
 - Multistakeholder initiatives: diversity of actors involved
- Tension between:
 - Rationale behind sustainability standard of internalizing external costs
 - Obscured due to distance between places of production and consumption
 - Capacity to obscure costs ('distancing', Princen) as source of competitiveness
 - Market competition as pressure on operators not to internalize all the costs

Corporate social responsibility of a large corporation in a rubber plantation in Gabon

Corporate social responsibility:

- Conservation and waste recycling measures, compensation
- But indirect effects poorly managed
 - Demographic ↗
 - ↗ *food cost, land conflicts, urban planning issues*
 - Leakage effects
 - *Displacement of deforestation*

And low cost investment through tax exemption :
→ ***State ability to act?***

How to ensure land use planning?

Which complementarity between public and private investment?

Between or beyond a state and a market driven approach?

- Moving towards territorial development approach
- Institutional capacities of different actors:
 - State, local authorities, farmer organizations, NGOs, etc.

The territory as a complementary space to agri-chains

- For regulation:
 - Territorial planning and common resources management
 - Anchoring of actors and of resources (Land, water, etc.)
 - A link between framework of public intervention and collective action
- For innovation:
 - Industrial symbiosis:
 - Integrated management of territories' residues
 - Agro-ecological transitions and landscape approaches
- For evaluation:
 - A research frontier for life cycle assessment
 - Connectivity, local heterogeneity

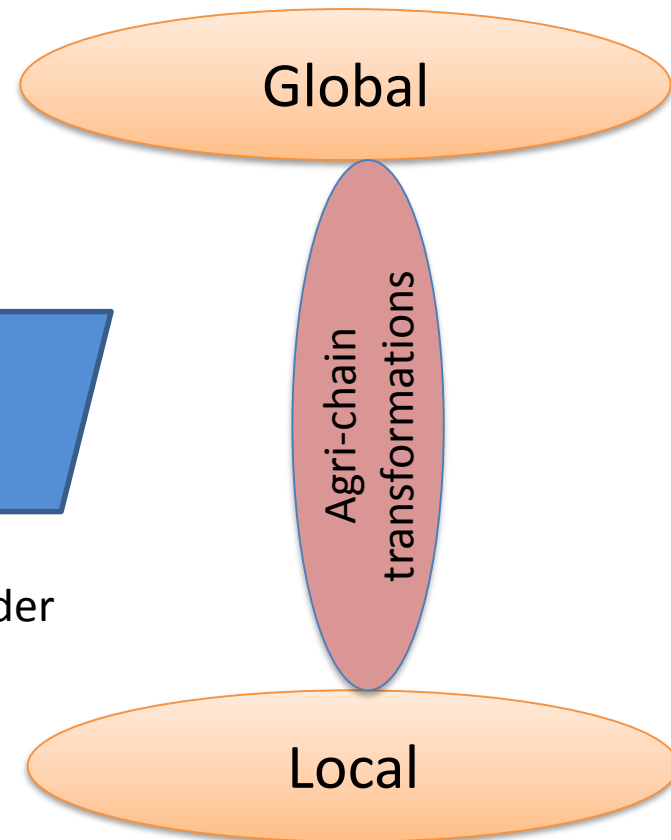
Combination of territories and agri-chains in articulating local and global towards sustainable development

- « Articulating common action at *the highest possible territorial level to align expectations, set directions and ground rules,*

Territories

- and the *decentralization* of individualizable actions in order to harness the *innovation capacities and detailed knowledge of situations* that characterize *local actors*»

(Godard, 2005)





**1. Performance and evaluation of agri-chains
with respect to the SDGs**

**2. Public policies and agri-chain governance
mechanisms at different scales in support of
the SDGs**

**3. Concrete innovation and partnerships for
building and transforming agri-chains towards
sustainable development**

Crosscutting issues: what role for research?
Which relevance of territorial dynamics?