THE ABS CAPACITY DEVELOPMENT INITIATIVE

L'INITIATIVE DE RENFORCEMENT DES CAPACITES POUR L'APA

Welcome!

Understanding Valorisation

Focus on value chains

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NORWEGIAN MINISTRY OF FOREIGN AFFAIRS

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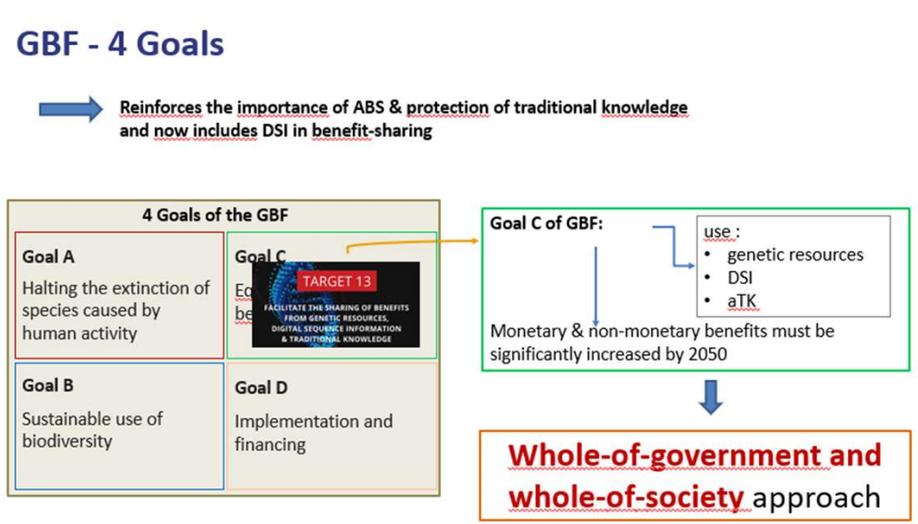
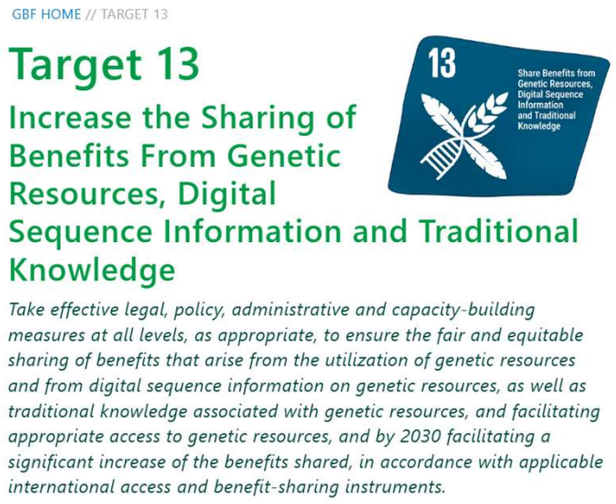
Content

- Key sectors using GRs and BRs
- Challenges categorizing sectors
- Key features of the different sectors
- Market sizes of different sectors
- Value chain basics
- Value chain basics, more detail
- Value chain direct participants
- Value chain enablers
- Value chain whole of government, whole of society
- Systemic approach

Multi Stakeholder Partnerships

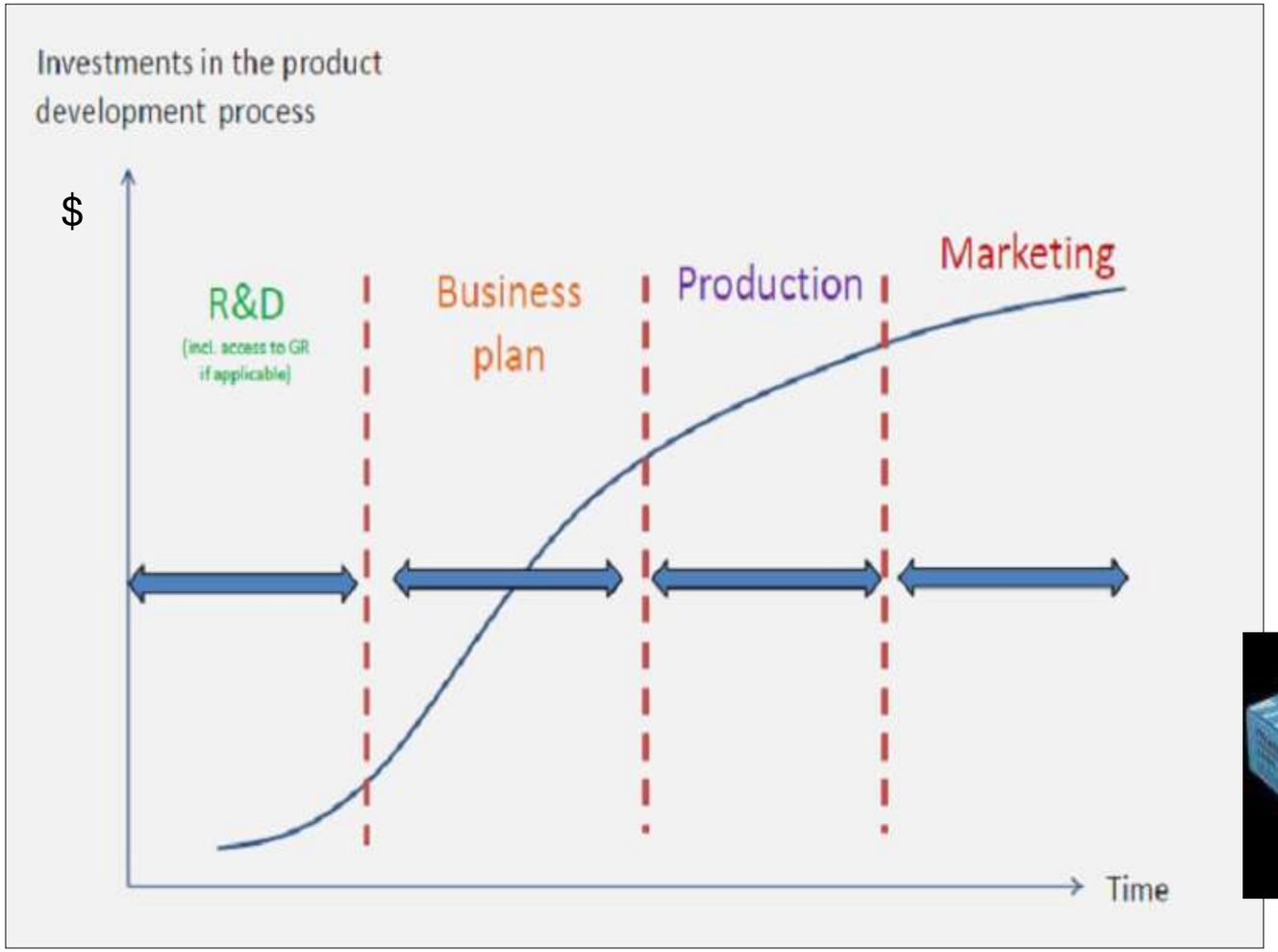




Key sectors using GRs and BRs

- Pharma
- Food and Beverage
- Cosmetics
- Botanicals
- Biotech
- Agriculture

Key features of the sectors



Key features of the sectors

- Pharma

- Almost always requires patents and other IP
- Extremely intensive R&D, multiple parties involved
- Onerous regulatory requirements
- Development timeframes often 10 – 12 years (patents “only” 20 years)
- Rewards are large, but failures much more common
- Failures “paid for” by the few products that are successful
- Final product unlikely to be manufactured in provider country

Key features of the sectors

- Food and Beverage

- Patents and IP used but not considered essential
- Significant R&D, multiple parties involved
- Onerous regulatory requirements
- Development timeframes often 2 – 5 years
- Rewards can be good, fewer failures than pharma
- Final product can be manufactured in provider country or user country

Key features of the sectors

- Cosmetics

- ➢ Patents and IP used but not considered essential
- ➢ Significant R&D, multiple parties involved
- ➢ Regulatory requirements less onerous that pharma and foods/beverages
- ➢ Development timeframes often 1 – 3 years
- ➢ Rewards can be good but generally low volumes compared to food/beverages
- ➢ Final product can be manufactured in provider country or user country

Key features of the different sectors

R&D: *user* country	
R&D: *provider* country „One-off“ access	„Continuous“ access

- Pharma
- Food and Beverage
- Cosmetics
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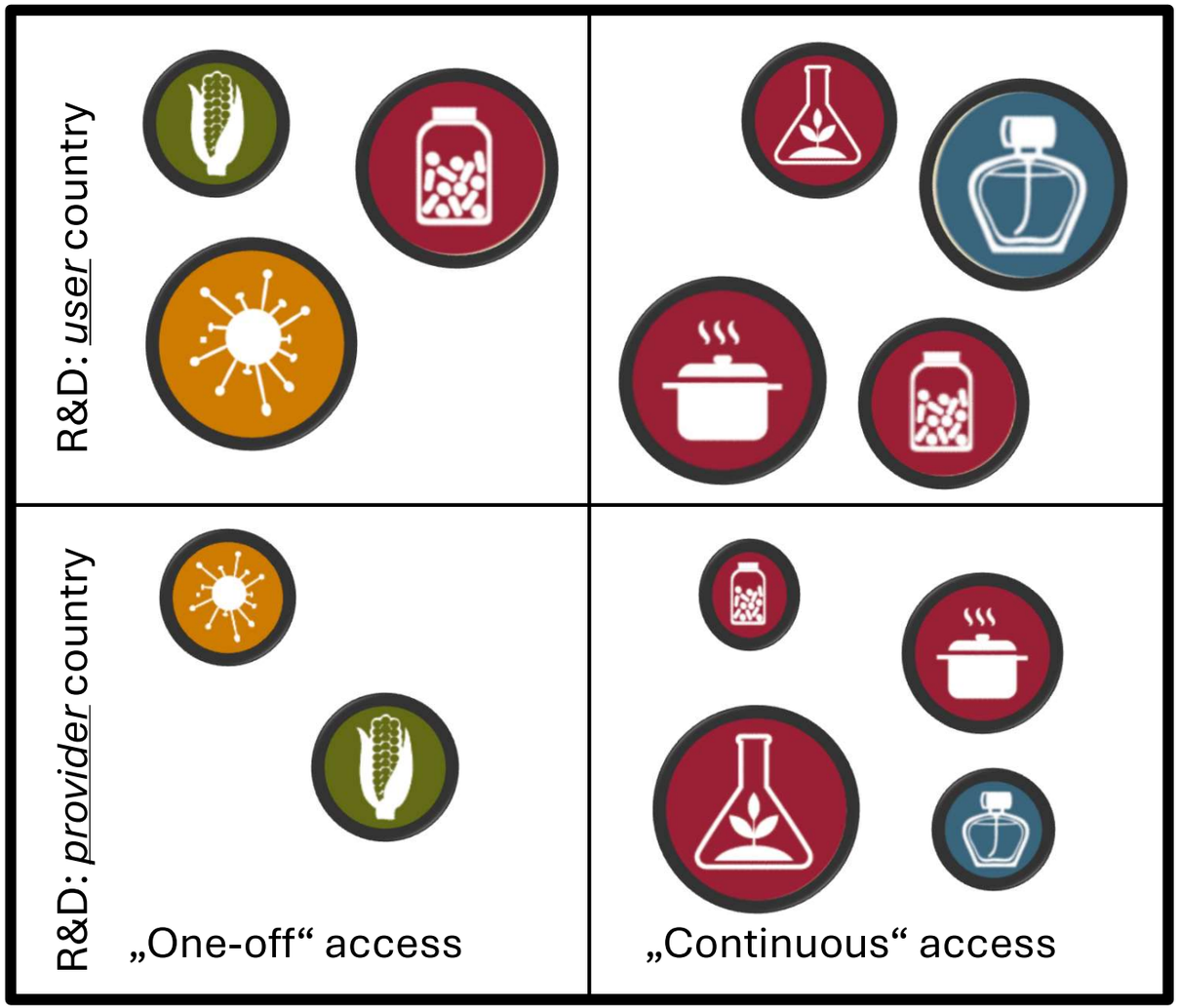
Key features of the different sectors



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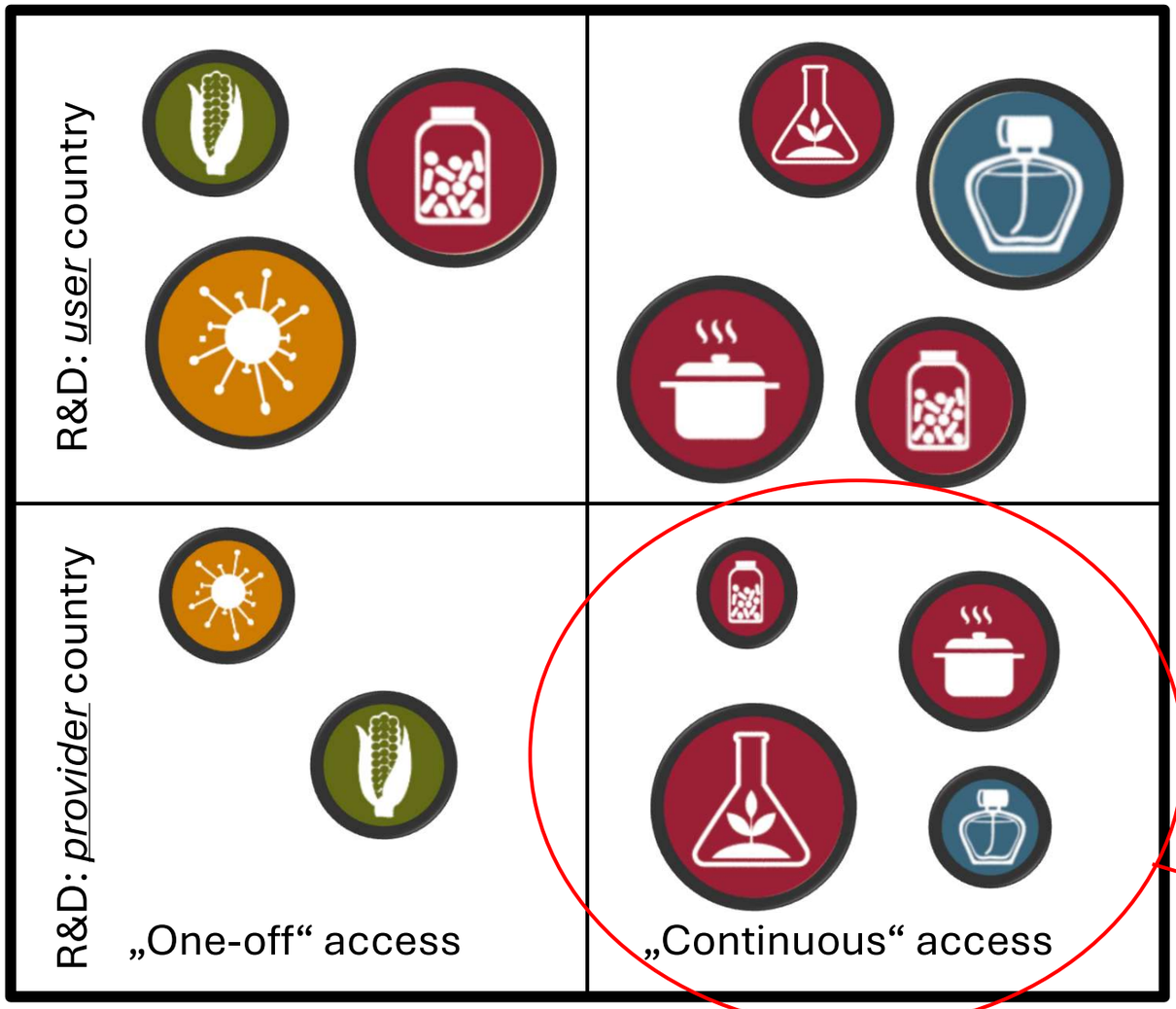
Key features of the different sectors



- Pharma
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- Cosmetics
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- Agriculture

Value chains for benefit sharing

The challenge of categorizing sectors

Sectors like **"Biotechnology"** and **"Agriculture"** not always distinct categories—significant overlap and interpretation involved in how they are defined.

Cross-Sector Overlaps

- Agricultural innovation increasingly integrates biotechnology (e.g. genetic modification).
- Biotechnology applications extend into agriculture through breeding, biological pest control.

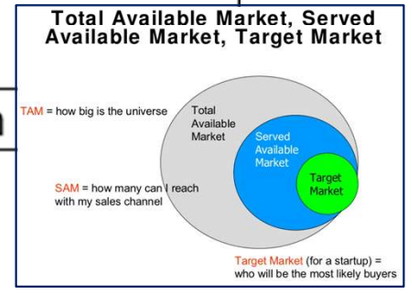
Further Subdivisions Exist

- "Agriculture" can include crop production, livestock breeding.
- "Biotech" can include pharmaceuticals, industrial enzymes, agricultural biotechnology, and synthetic biology.
- Within these, we also find specialized sectors like plant breeding, agricultural biotechnology, and crop protection—each drawing from both agriculture and biotech.

Much like biological taxonomy, defining sectors is a matter of perspective and purpose, shaped by evolving technology, policy and legislation, and industry trends**.**

Market sizes of different sectors

Industry	Global markets (US$)	Notes
Pharmaceuticals	1.6 trillion (2024)	Roughly 20% - 25% potentiall plant / biodiversity based or inspired = approx. 400 billion
Cosmetics	420 billion (2024)	Natural and organic 30 billion – 40 billion
Food and beverages	4.5 trillion – 7.4 trillion (2024)	Functional foods and beverages 280 billion – 349 billion (2024). New category to note = "plant-based" especially proteins = 33 billion – 56 billion
Seed	46 billion – 114 billion (2024)	Plant breeding for agriculture, forestry and horticulture = 12 billion – 15 billion (2024) – large role of CRISPR (biotechnology)
Crop protection	Range: 44.78 billion to 96.05 billion (2024)	"Biological" crop protection = 6 billion – 15 billion (2024)
Industrial biotechnology	1.5 trillion (2023)	Industrial enzymes = 7.42 billion
Botanicals	164 billion (2022)	"Herbal medicines" 70 billion – 233 billion



- Total available market
- Serviceable available market
- Target market

Value chain basics

Natural environment → Ingredients → Consumer products

Value chain basics, more detail

Natural environment → **Ingredients** → **Consumer products**

Natural / social environment	Plant species innovation	Raw material trade	Ingredient manufacture	Ingredient trade	Product innovation	Product manufacture	Products marketing & sales
							
• Biodiversity, Ecosystem services • Taxonomy, Botany • Resource assessment • Environment. mgmt. plans • Rural economy structure	• Trad. Knowledge • Scientific literature • Phytochemistry • Efficacy trials • Intellectual Property (IP) • Pre-processing, stocktaking • Regulations (incl. ABS)	• Sustainable production and harvesting • Traceability • (Organic) Certification • QA & QC, R&D, standards • Fair and ethical trade schemes	• Good manufacturing practices, factory standards • Operations: skills, equipment, manufacturing • Value addition / economics • Financial management	• Export permits, logistics • Distribution • Market access compliance • Marketing • Sales, pricing, negotiations • Business relations	• R&D, IP • Product concepts • Formulations • Packaging & labelling • Performance, efficacy • Product regulatory compliance	• Good manufacturing practices, factory standards • Supply capacity economics • Manufacturing technology • QA & QC • Finance and investment plan	• Market intelligence • Sales, distribution, • Marketing • Registration, approval • Branding, IP • Labelling compliance • Business plan
Research Farmers Cooperatives Associations IPLC, SMMEs	Research ILPC SMMEs Associations	Farmers Cooperatives Associations BSOs, SMMEs	SMMEs Associations BSOs	SMMEs Associations Traders Industry	SMMEs, Research Industry Research	SMMEs Industry Research	SMMEs Consumers Industry Consumers

Value chain basics, more detail

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			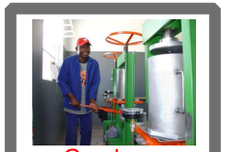				
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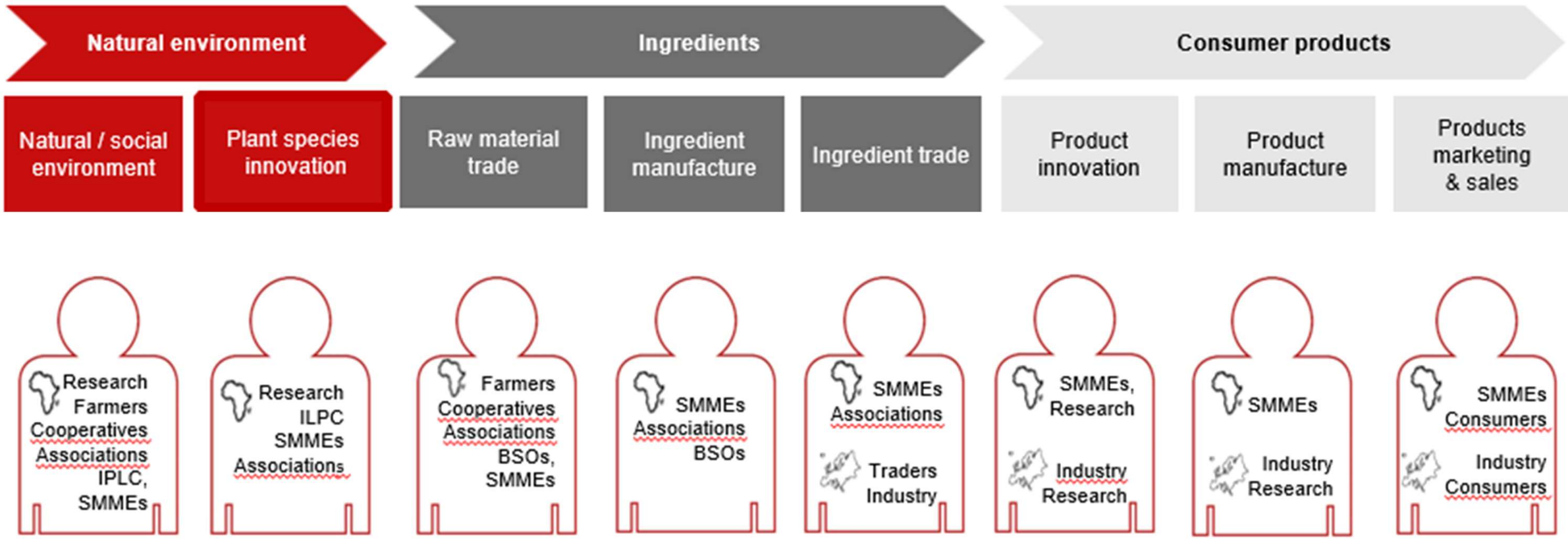
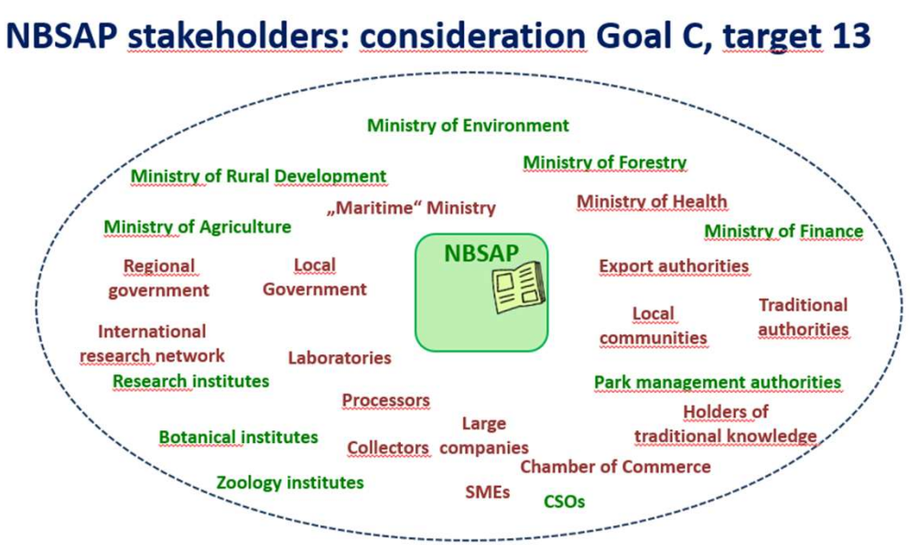
Value chain direct actors/participants



Value chain enablers



Civil society include media, consumers

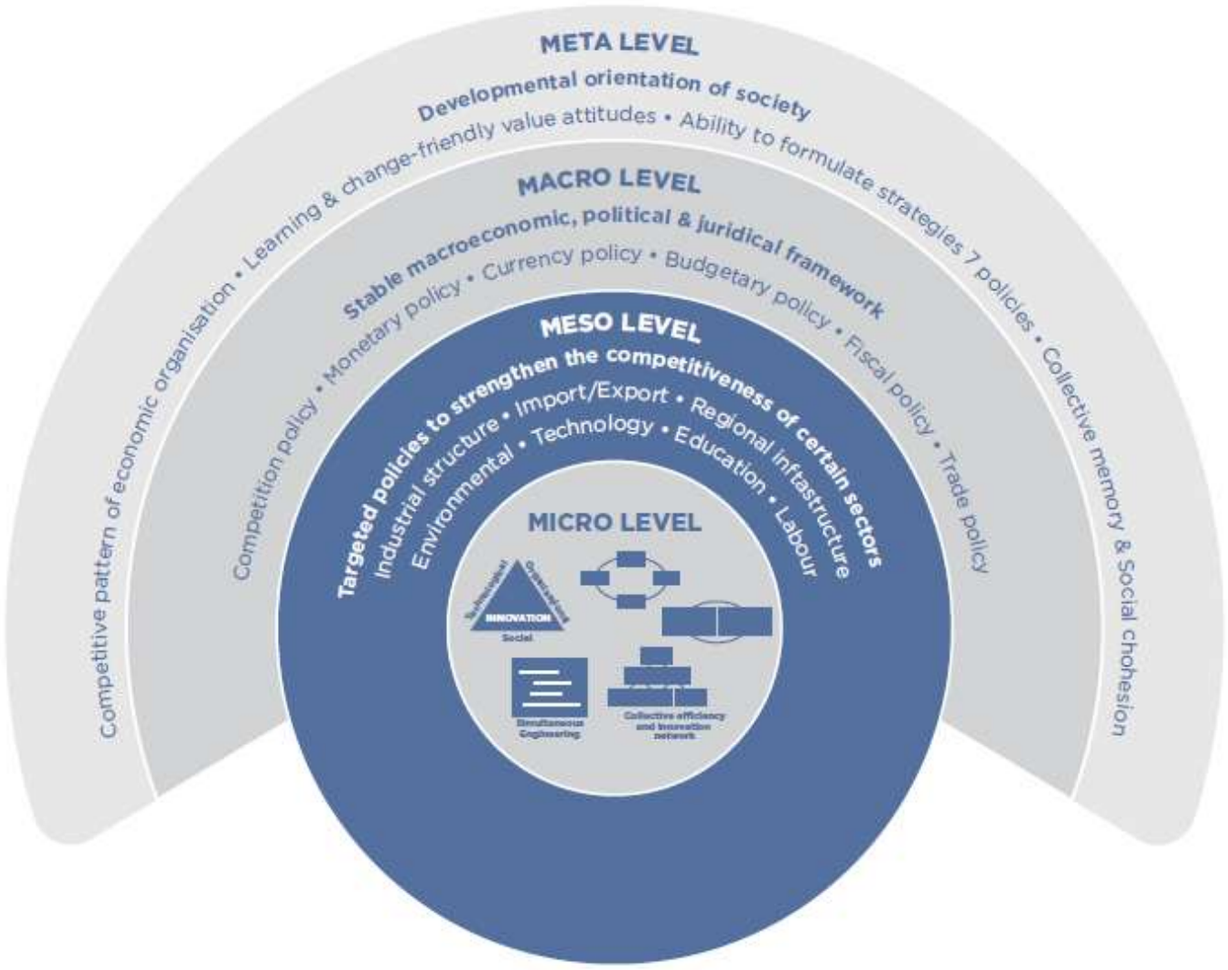
Academia research

Funders and providers of finance:

1. Grants to support training, capacity development, conservation, community development, IPLCs, primary research, some R&D, sector level programmes for growth
2. Concessional finance for start-ups, specific target groups, emerging business opportunities
3. Finance for businesses to grow

Example of first-hand experiences in developing a model for Biotrade blended finance"

Sector enabling environment



Systemic approach in South Africa

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Thank you!

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