



LEAP Partnership: Introduction, Achievements, and Action plan

Greg Thoma

Livestock Environmental Assessment and Performance Partnership

The LEAP Partnership is a multi-stakeholder initiative committed to improving the environmental performance of livestock supply chains, while considering both economic and social viability of the sector.



- ✓ Steering Committee: **equal say**
- ✓ Secretariat hosted at FAO
- ✓ Participation is **open and voluntary**: members recognize the objective and principles of LEAP

LEAP Partnership in a nutshell

International, Multi-stakeholder, Partnership on:

- ❖ Committed to improving livestock supply chains
- ❖ Environmental sustainability considering both economic and social viability of the sector.
- ❖ Multi-criteria approach
- ❖ Life-cycle thinking and life cycle assessment (LCA)

LEAP “products”:

- ❖ Science-based consensus environmental assessment and reporting guidelines
- ❖ Reference Data



Livestock Production Matters



Food security



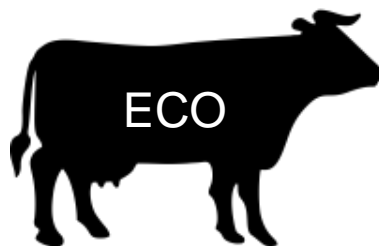
Global Assets



Long market chain



9 billion people



Environmental impact



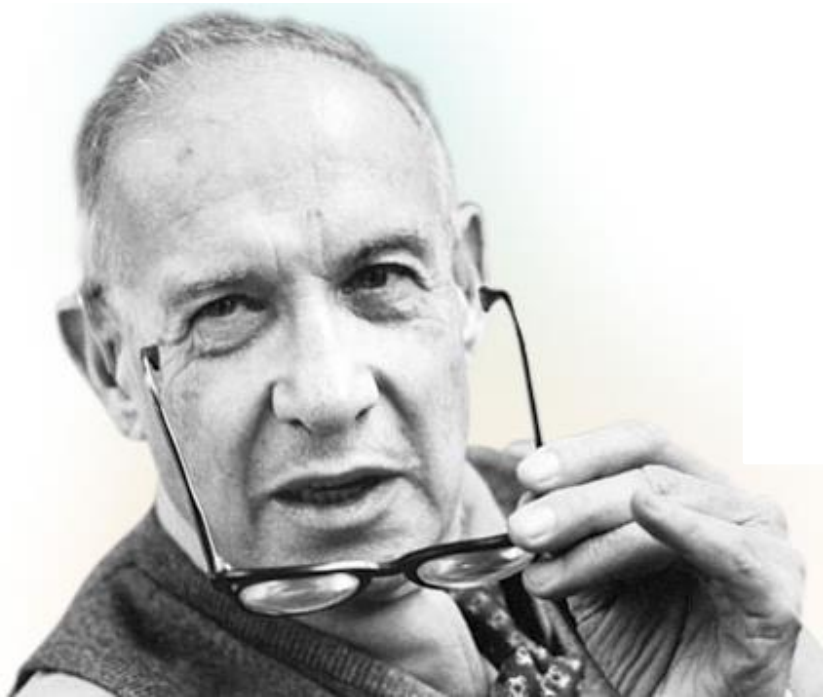
Demand for livestock products

Specificities of the sector require dedicated attention

- Environmental issues
 - ❖ GHG emissions, acidification, eutrophication, biodiversity, etc
- Natural processes are difficult to control and measure (e.g. accounting of nutrient flows)
- Diverse farming systems
- Long supply chains with many actors
 - ❖ multiple products and functions

Activities

- **LEAP** develops comprehensive guidance and methodology for understanding the environmental performance of livestock supply chains to shape evidence-based policy measures and business strategies.



***“What gets measured,
gets managed”***

- Peter Drucker

LEAP Achievements

- LEAP Partnership program 2012 - 2015, has been developing consensus environmental assessment tools:
 - ❖ 6 Technical Advisory Groups (TAGs)
 - ❖ 300 experts from all world regions
 - ❖ 6 Technical Guidance documents
 - ❖ 1 Global database for 5 main feed crops



Small Ruminants

Feed Crops Database

Poultry

Feed



Greenhouse gas emissions and fossil energy use from small ruminant supply chains

Guidelines for assessment

VERSION 1



Greenhouse gas emissions and fossil energy use from poultry supply chains

Guidelines for assessment

VERSION 1

Crop:
 Region/Type:
 Region:
 Country:

Agro Ecological Zone:
 Production System:
 Production Practice:

Temperature:
 Irrigated:
 Harvested:

Life Cycle Inventory (LCI)

Seed rate	1851.3	kg / ha
Organic fertilizer	5778.2	kg N / ha
Artificial fertilizer	2311.3	kg N / ha
Urea	0.034	AN
Nitrate sol.	0.227	CAN
NPK	0.132	AP
Acid. fert.	0.062	AS
Lime	577.8	kg / ha
Phosphorus	1155.8	kg P / ha
Pesticides	1155.8	kg AI / ha

GLEAM output

Seed	37.03	kg CO ₂ -eq / kg DM
Organic fertilisation	186.45	kg CO ₂ -eq / kg DM
Synthetic fertilisation	1178.72	kg CO ₂ -eq / kg DM
Energy use	61.63	kg CO ₂ -eq / kg DM
Crop protection	177.72	kg CO ₂ -eq / kg DM
Land work	318.98	kg CO ₂ -eq / kg DM
Total excl. LULUC	1970.53	kg CO ₂ -eq / kg DM
Land use	0.22	kg CO ₂ -eq / kg DM
Land use change	0.22	kg CO ₂ -eq / kg DM

Ploughing: # / yr 0.2 0.8 0

Seedbed preparation: # / yr 0.2 0.8 0

Seeding: # / yr 0.2 0.8 0

Organic fert. Application: # / yr 0.2 0.8 0

Synthetic fert. Application: # / yr 0.2 0.8 0

Pesticide spraying: # / yr 0.2 0.8 0

Weeding: # / yr 0.2 0.8 0

Irrigation: # / yr 0.2 0.8 0

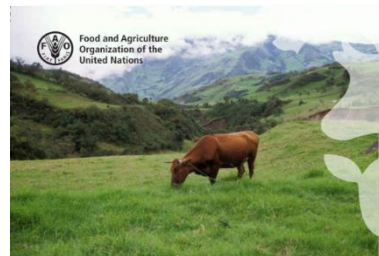
Harvesting: # / yr 0.2 0.8 0

Yield: 138676.7 kg DM / ha

Methodological notes

Large ruminants

Biodiversity



Principles for the assessment of livestock impacts on biodiversity

DRAFT FOR PUBLIC REVIEW



Environmental performance of large ruminant supply chains

Guidelines for assessment

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Developing sound tools for transition to sustainable food and agriculture

LEAP Partnership Life Cycle Assessment Guidelines on livestock supply chains: Methodological notes

2016 Public Review

Pig supply



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Environmental performance of
pig supply chains
Guidelines for assessment



DRAFT FOR PUBLIC REVIEW
Replies to comments by Cowspiracy

Reply to
comments by
Cowspiracy



LEAP work programme 2016-2018, known as **LEAP+**, is supporting the consolidation of LEAP1 guidelines through **road testing, additional technical guidance documents, and review.**



Ongoing Activities

LEAP+ Road Testing

To evaluate the applicability of LEAP guidelines

To get feedback on the clarity of recommendations

To identify gaps in recommendations and barriers preventing application and endorsement



LEAP+

Broadening Scope

Broadening the scope of LEAP and taking a major step towards sustainability by contributing to the development of guidelines on integrated sustainability assessments



Nutrient
cycling

Water
Footprinting

Soil
Carbon
Changes

Feed
Additives

Biodiversity

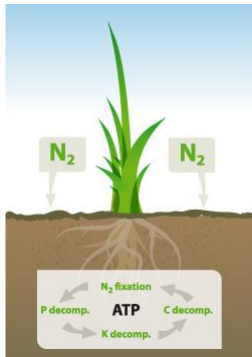
Eco-
toxicity

Nutrient Cycles Accounting TAG

Origin of “New N and P”

N

Biological N fixation by legumes



Haber-Bosch reaction
High energy



P

P Ore mining



P mine in Togo

Release of accumulated soil P

Nutrient Cycles Accounting TAG

To propose methods and metrics to assess nutrient use performance along regional and global livestock supply chains

To identify hotspots as entry point for improvement options

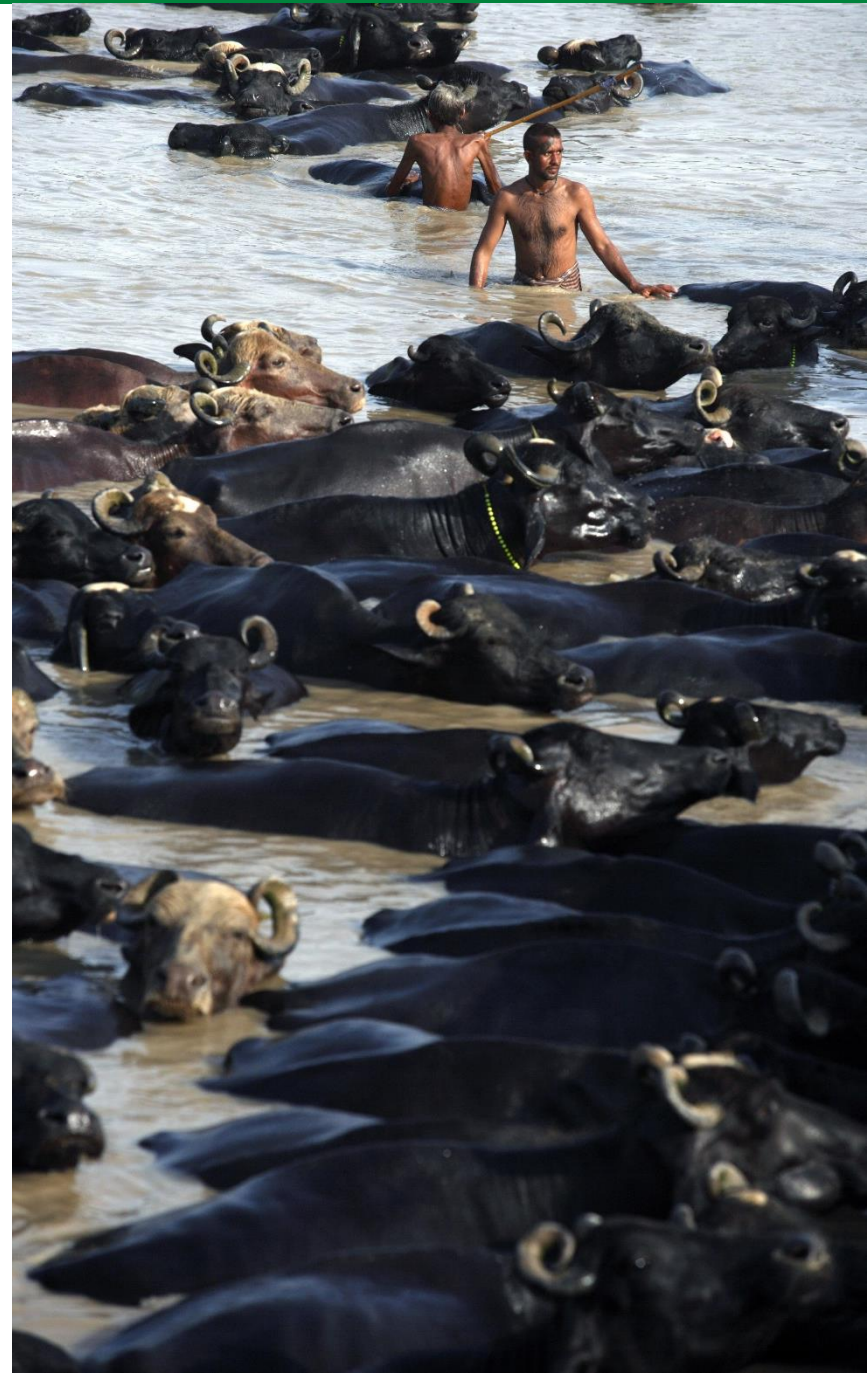
To estimation of the global share of livestock in total nutrient losses



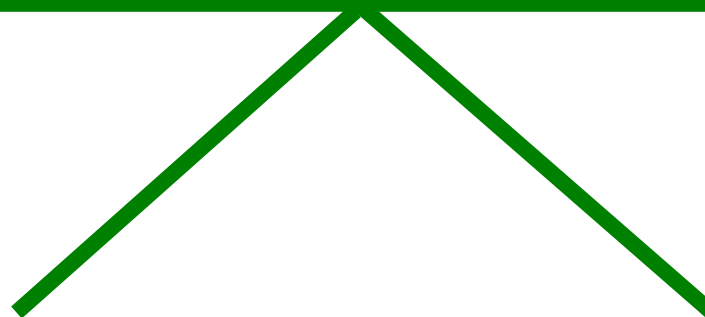
Water Footprinting TAG

Water is an essential production input for feed and livestock supply chains

- ❖ Increasingly scarce resource
- ❖ Availability varies widely over temporal and spatial scales
- ❖ Climate change
- ❖ Increased competition with other users



Water Footprinting TAG - Finding a balance



Water Footprinting TAG

To evaluate the credibility of water footprint methods and methods when these are applied in livestock supply chains

To propose methods and metrics to assess water footprinting assessments appropriate for both regional and global livestock supply chains

To identify hotspots as entry point for improvement options



Soil Carbon Stock Changes TAG

Grassland covers almost 40% terrestrial land

High potential to store Carbon

❖ Mitigate climate change - Carbon credits

Soil carbon storage is influenced by several factors

❖ Soil type - Climate - Agriculture mgmt. practices

