



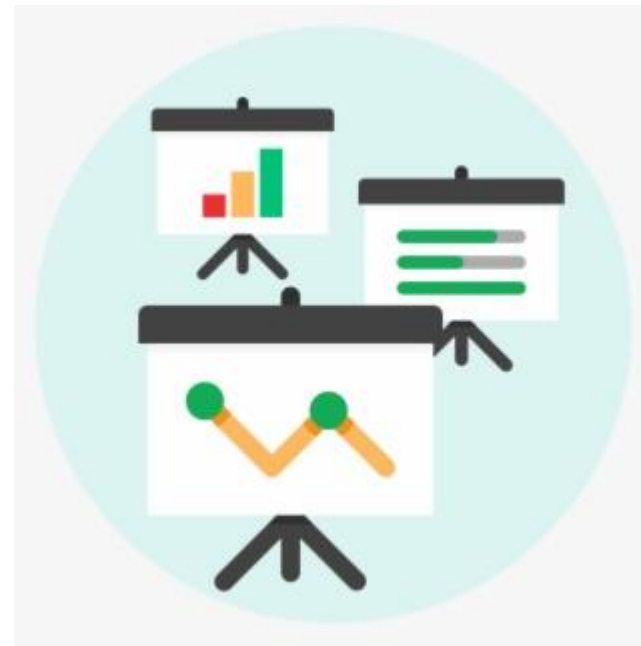
## Livestock production within planetary boundaries : looking beyond the farm

Catherine Pfeifer

Davos, 2. September 2021, EAAP Conference

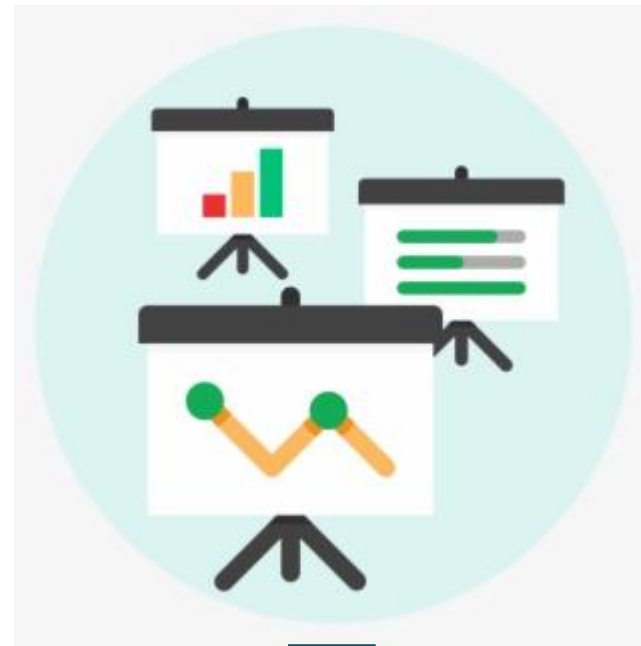
Challenges and novel metrics of multi objective tools session 67

# THE CHALLENGE



Why we have so many metrics ?

# THE CHALLENGE

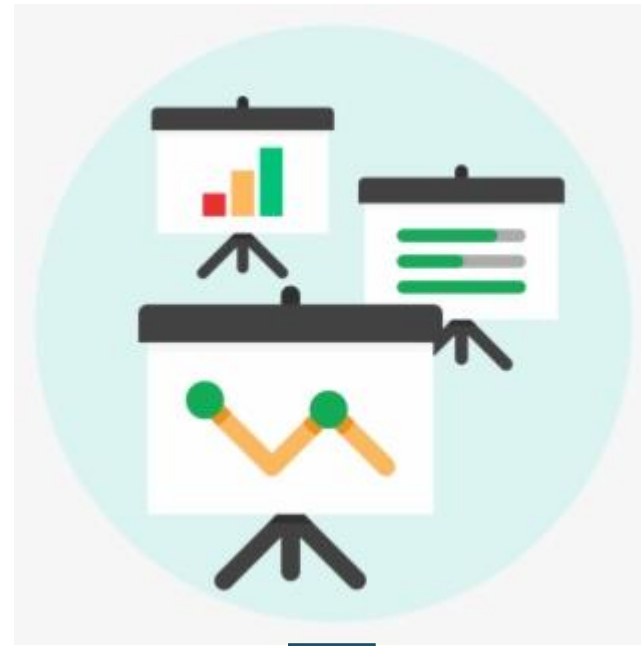


Why we have so many metrics ?



why we still need novel ones?

# THE CHALLENGE



Why we have so many metrics ?



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**FiBL**

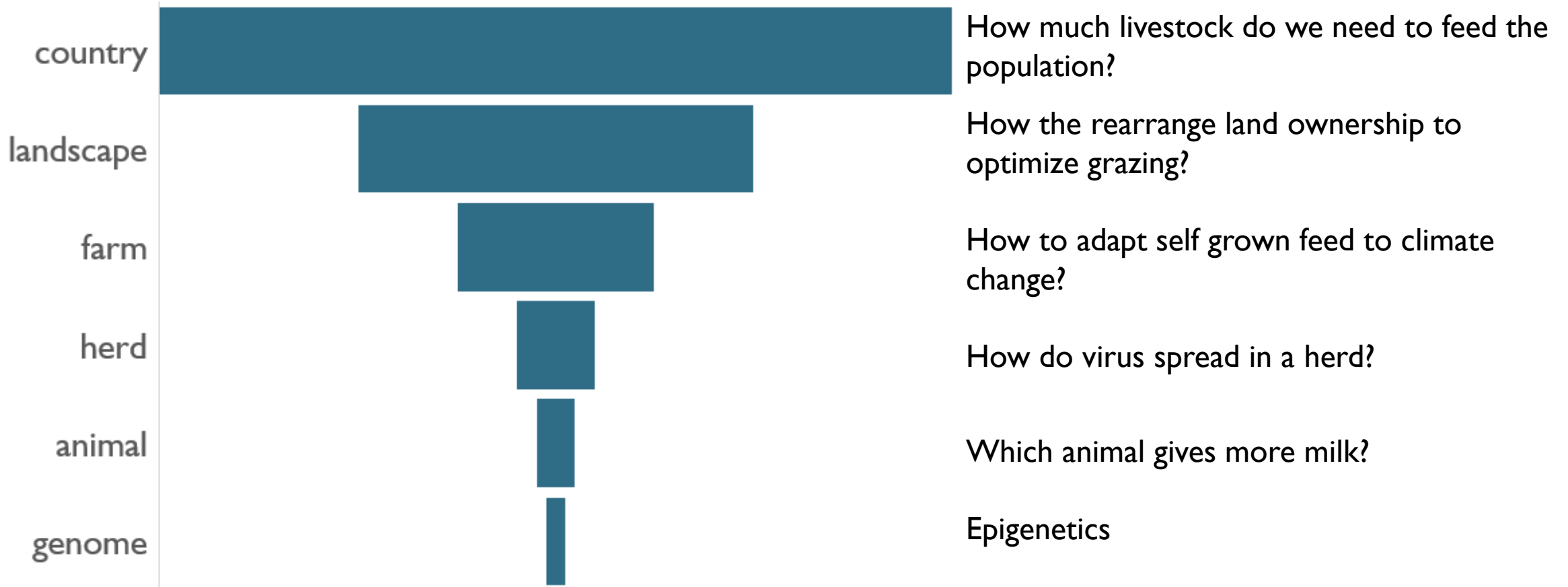


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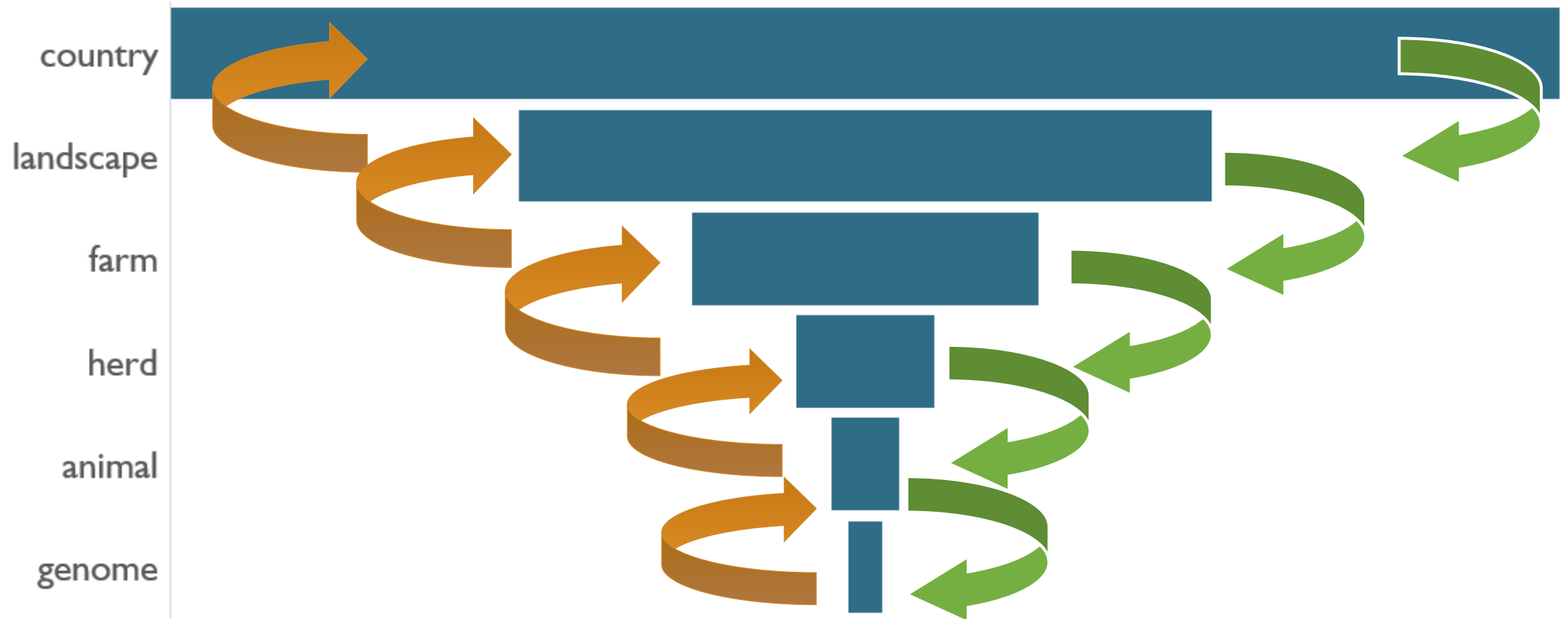
# A livestock related geographical scale



# Different level of organisation of a geographical scale for livestock science



# Moving across levels

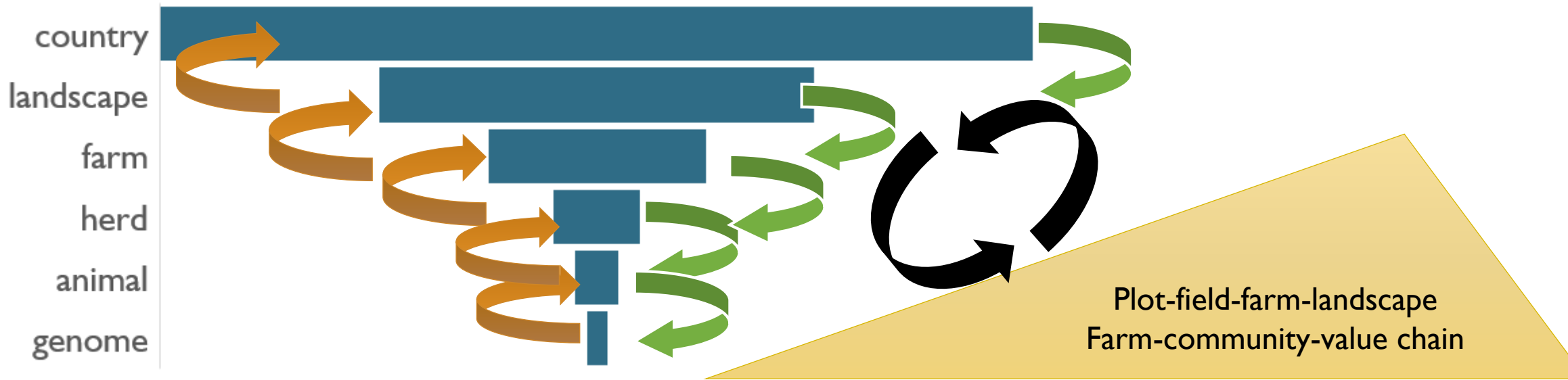




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# Why novel metrics to assess environmental impact of livestock?

Intensification

More efficient production  
= less footprint per kg  
product



Metrics from  
LCA



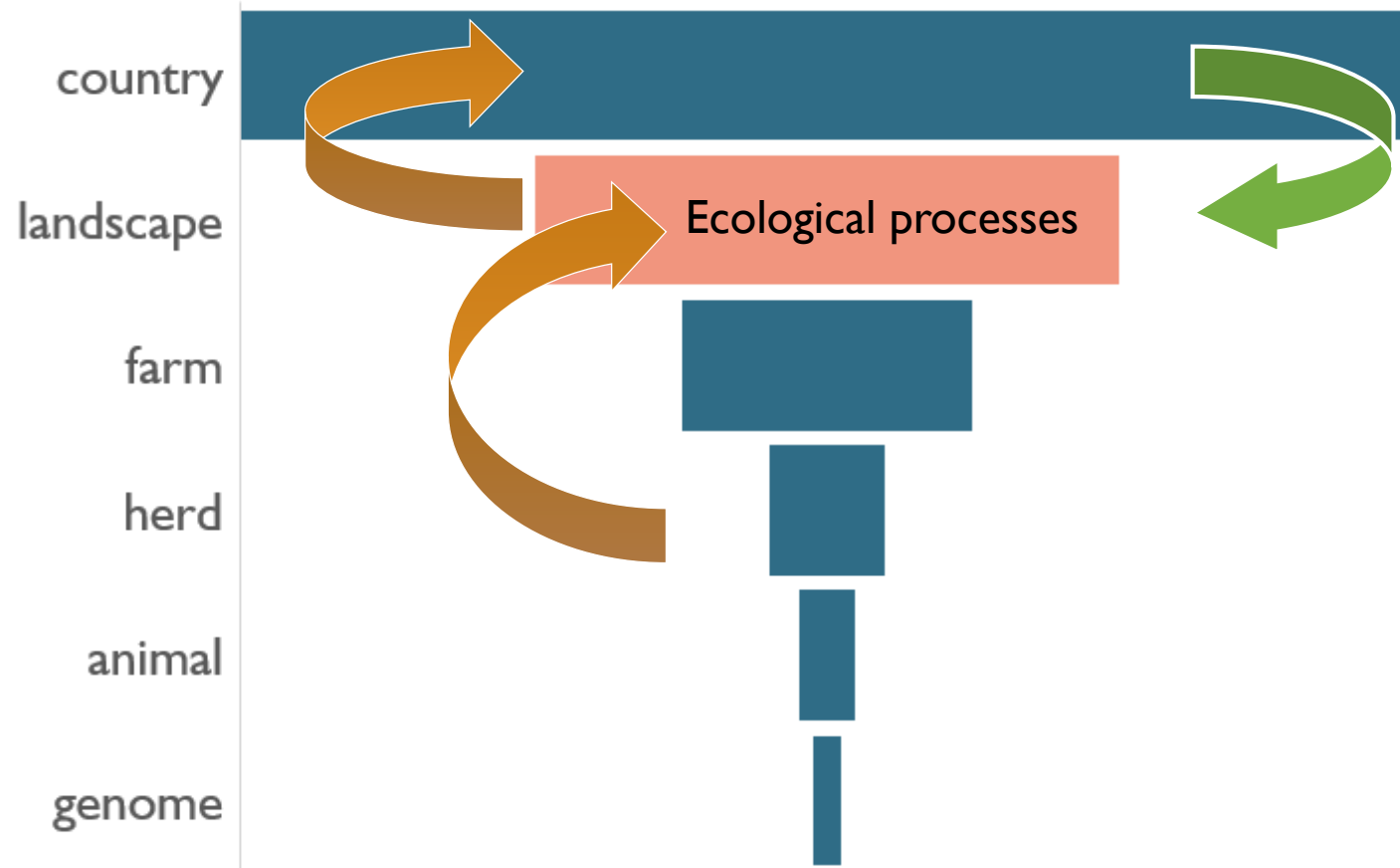
Agro-ecology

Livestock are sustainable  
when they close cycle,  
(circularity)



?  
=> PATHWAYS H2020

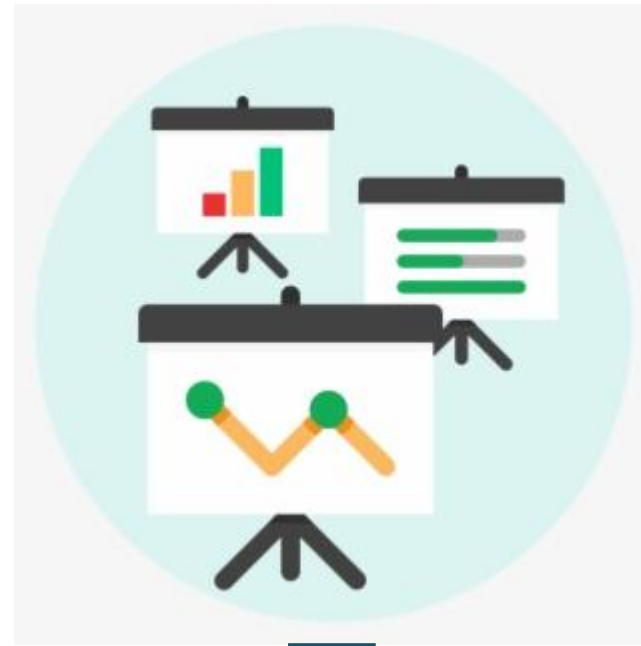
# The PATHWAYS approach



How does livestock influence ecosystem processes (nitrogen, phosphorus, water)?

Fully spatially explicit model to assess circularity at different levels  
Ecological carrying capacities (planetary boundaries)

# THE CHALLENGE



Why we have so many metrics ?



why we still need novel ones?



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## How to solve the cross-scale issues?

- Transdisciplinary dialogues
  - Develop tools and games to learn about complexity
  - Learn to communicate about complexity
  - Learn to listen

