

How technology and big data can help



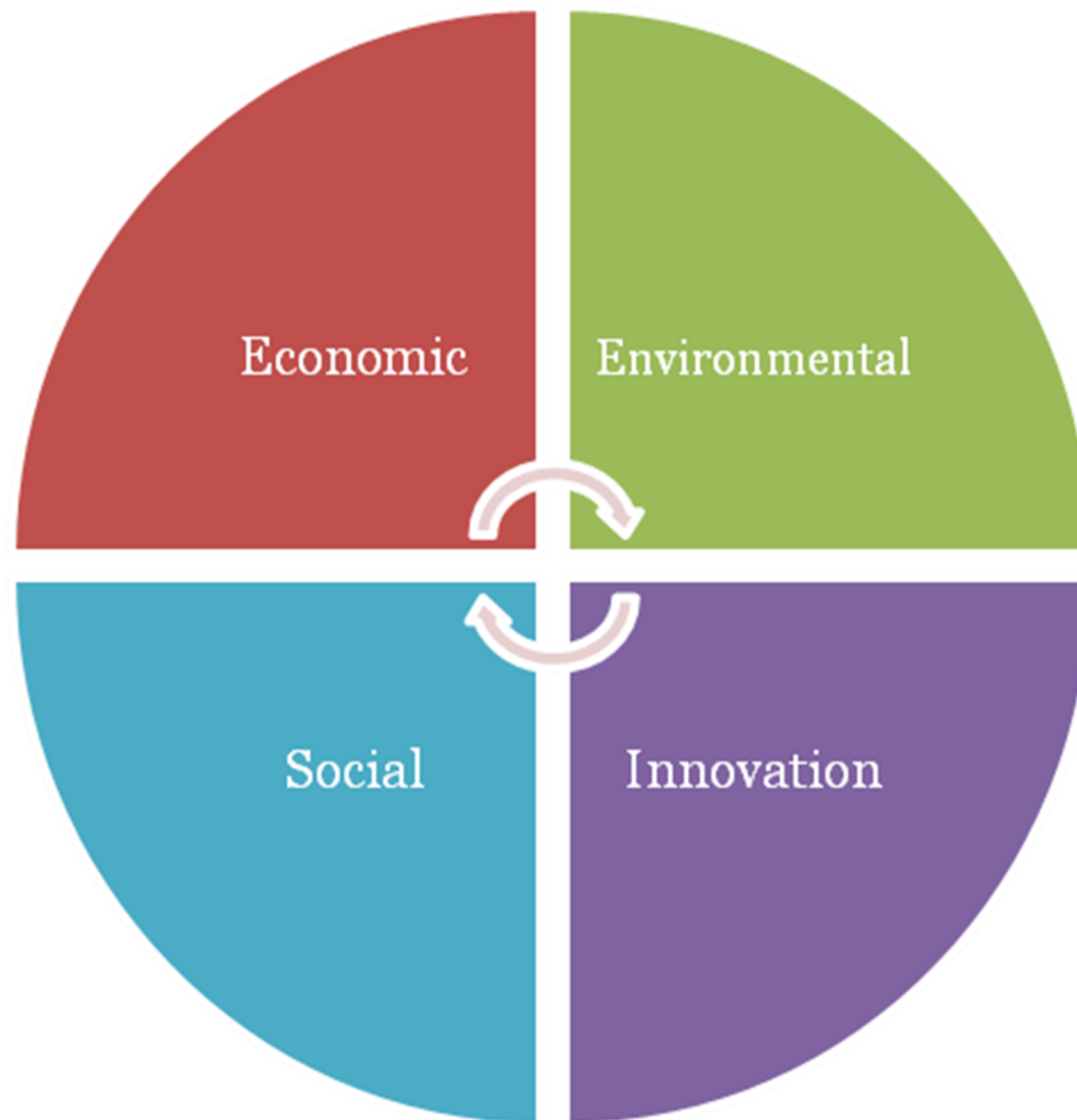
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The CAP is evolving so data must evolve!



“What gets measured, gets managed.”
Peter Drucker

Measuring Sustainability



Indicators

- **Quantifiable**
- **Representative sample**
- **Multidimensional but harmonised**
- **Policy focussed**

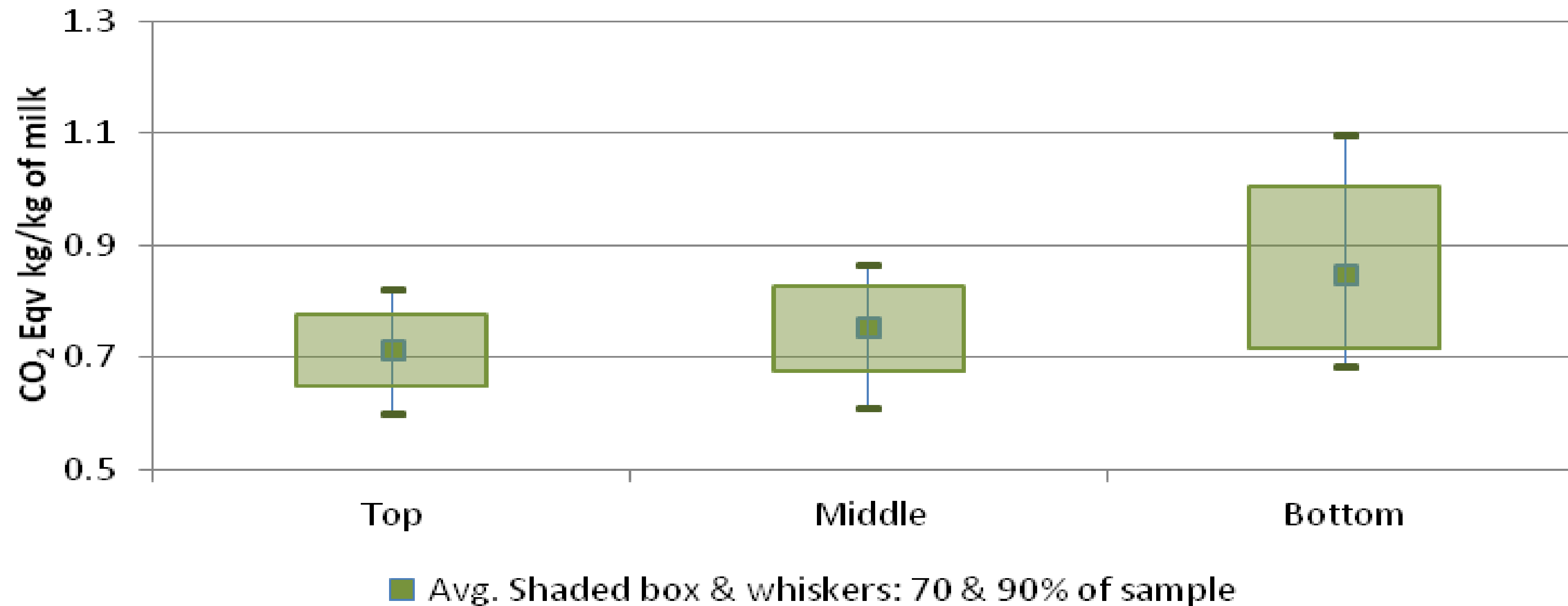
Flint Project

- Indicators
 - What is desirable?
 - What is feasible?
 - What is acceptable?
- Scope for the Farm Accountancy Data Network to facilitate
- Why FADN?
- Data collection on a pilot of farms
 - Manual data collection



Example result from Irish data

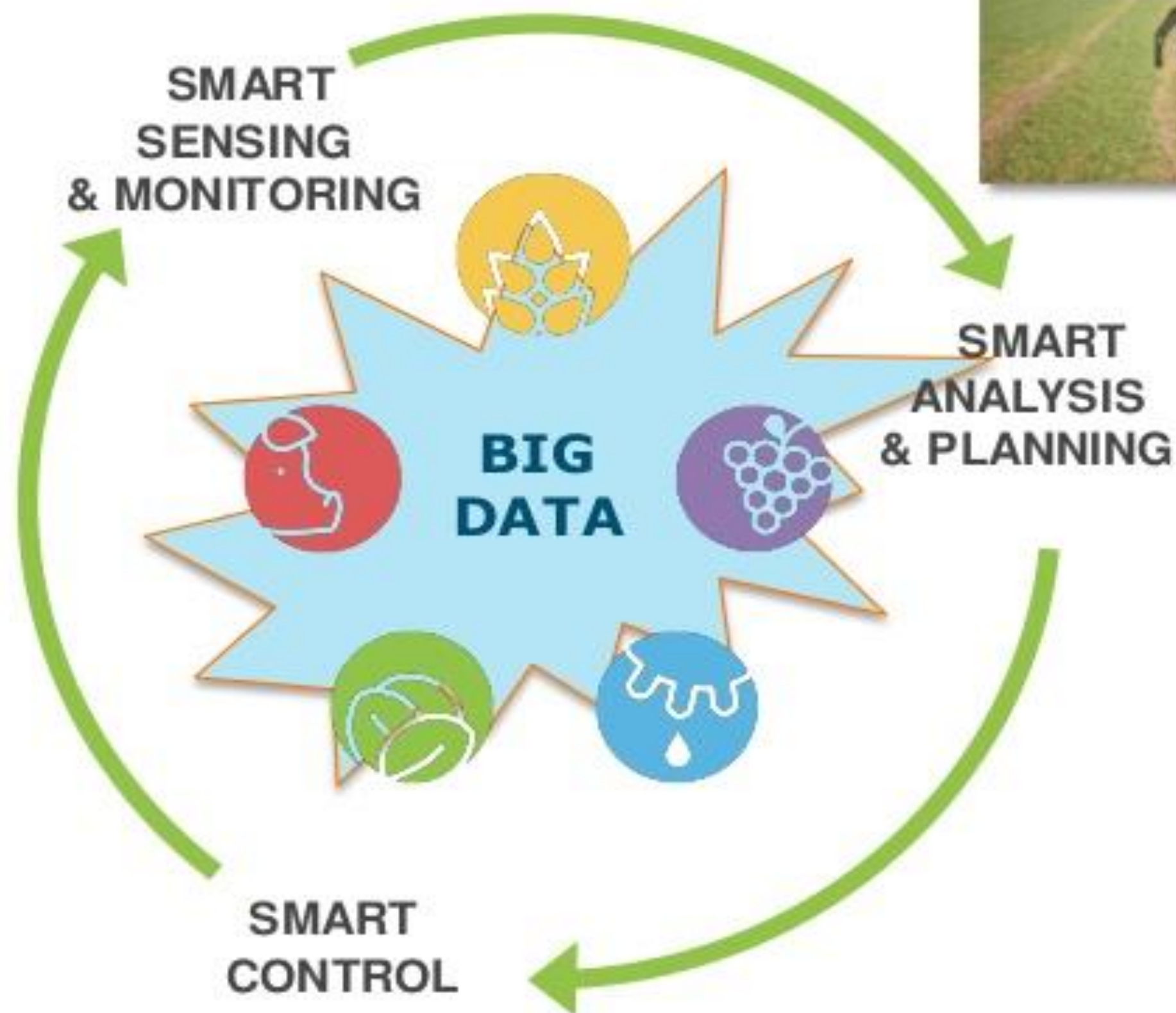
Emissions CO₂ Equiv/Milk kg: Dairy Farms



How technology and big data can help

- *In action*
- Linking existing databases to supplement FADN
 - Ministry data on LIPIS, payments, animal identification
 - Upstream and downstream trading partners
 - Use GIS codes to overlay other data
- More advanced in certain countries eg Netherlands

Internet of Things enables Smart Farming...

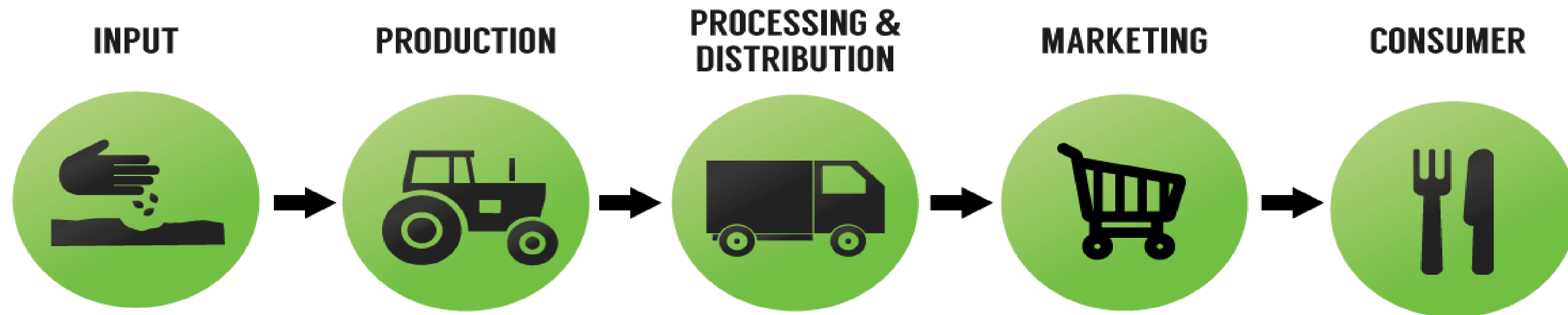


Source: Poppe (2017)

How technology and big data can help

- *Potential*
- Farmer captured data
 - Sensors, Mobile Apps etc
 - Incorporate in national databases
 - “Self-selection bias” – digital divide
 - Data protection issues

Not just within the farmgate!

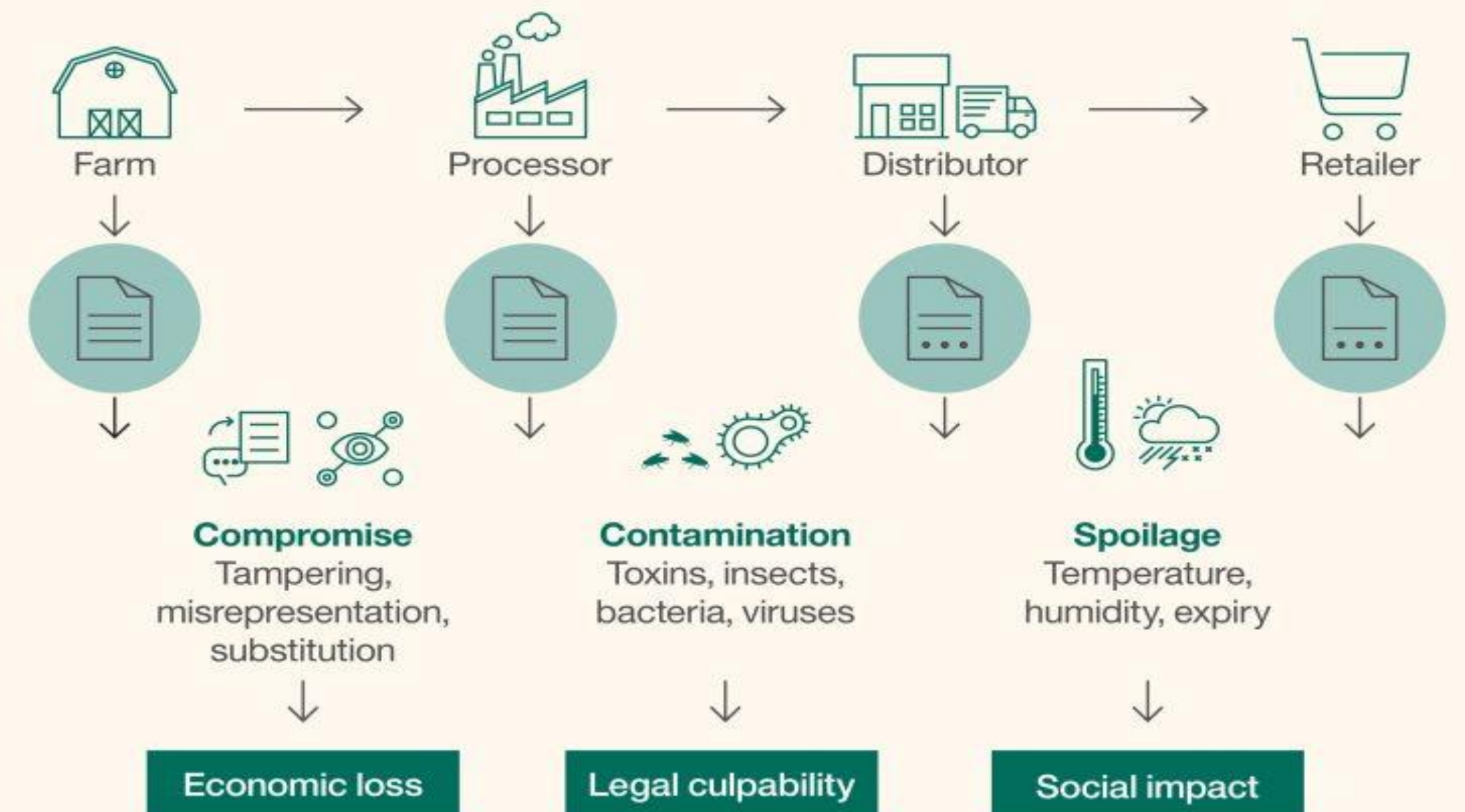


IBM is tapping blockchain for a more transparent, authentic and trustworthy global food supply chain.



- Blockchain

Disparate ledgers and lack of transparency in the supply chain put food at risk.



Conclusions

- Policy evolving – data needs are evolving
- Technology and big data should be exploited more
- Challenges remain;
 - How open are the official statistical sources?
 - Representivity of sample
 - Data protection issues
 - Certain personal data may always need to be collected directly
 - “Do you have a farm successor?”
 - “How do you rate your quality of life?”