



Bringing Science to Society through Co-Innovation and Co-Creation – The Soil-Health and Food Mission

EURAGRI conference, 27-28th September 2021

Évora (Portugal)

Why are indicators necessary and for which purpose?

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What are indicators?

Indicators: metrics indicating the level of something

‘a representative measure (summary form) involving raw data on a phenomenon that is important for policy makers’ (OECD, 2001, Environmental indicators for agriculture, Volume 3: Methods and results)

- Help decision-making
 - Provide key messages
 - Monitor performance
- Of an individual/enterprise or group of individuals/enterprises
 - Of a policy measure

Private policy e.g. bank / Public policy e.g. CAP (next presentation)



Why indicators?

Indicators needed for:

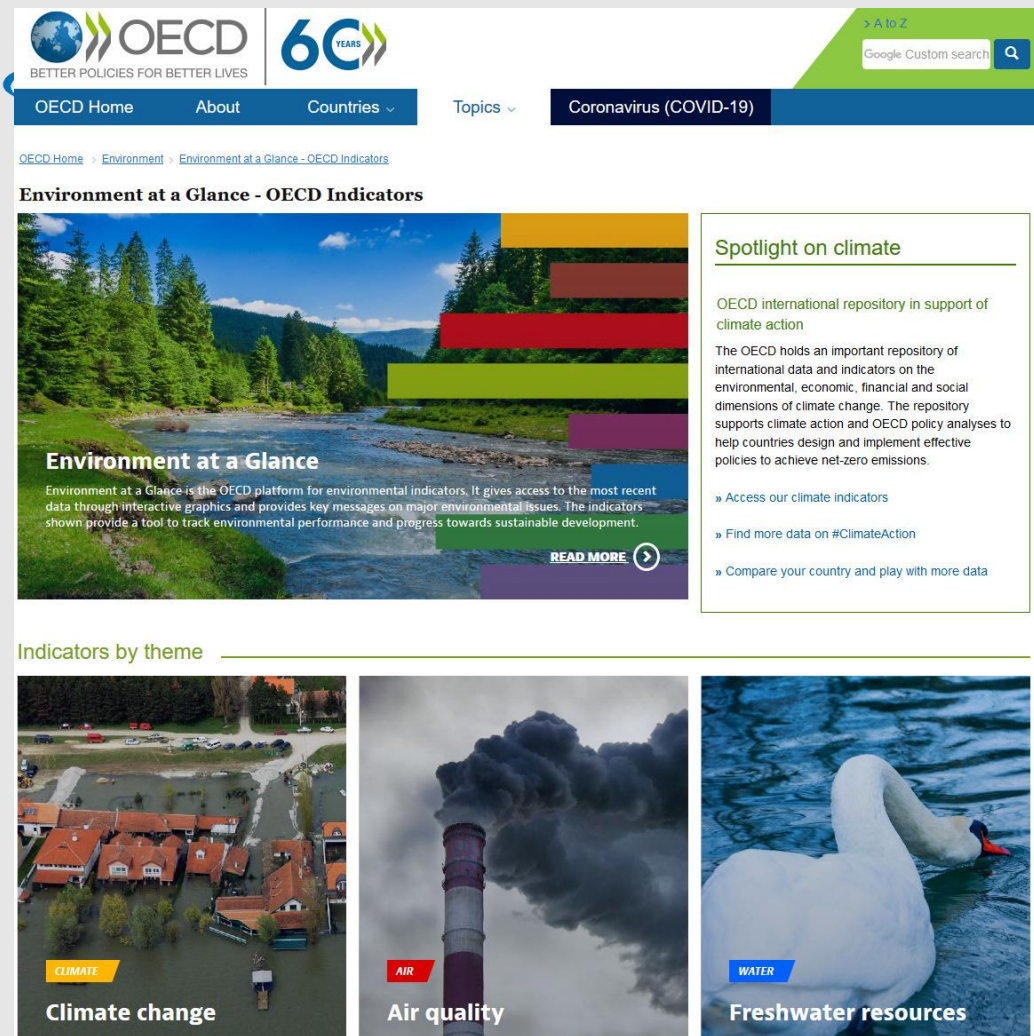
- **Internal monitoring:** Evaluate the improvement potential of an enterprise, e.g. to reduce cost, to increase sustainability
- **Benchmarking:** Compare or rank enterprises; assess gaps between them
- **Policy evaluation:** Evaluate the impact of a policy

Various types of indicators exist, e.g.:

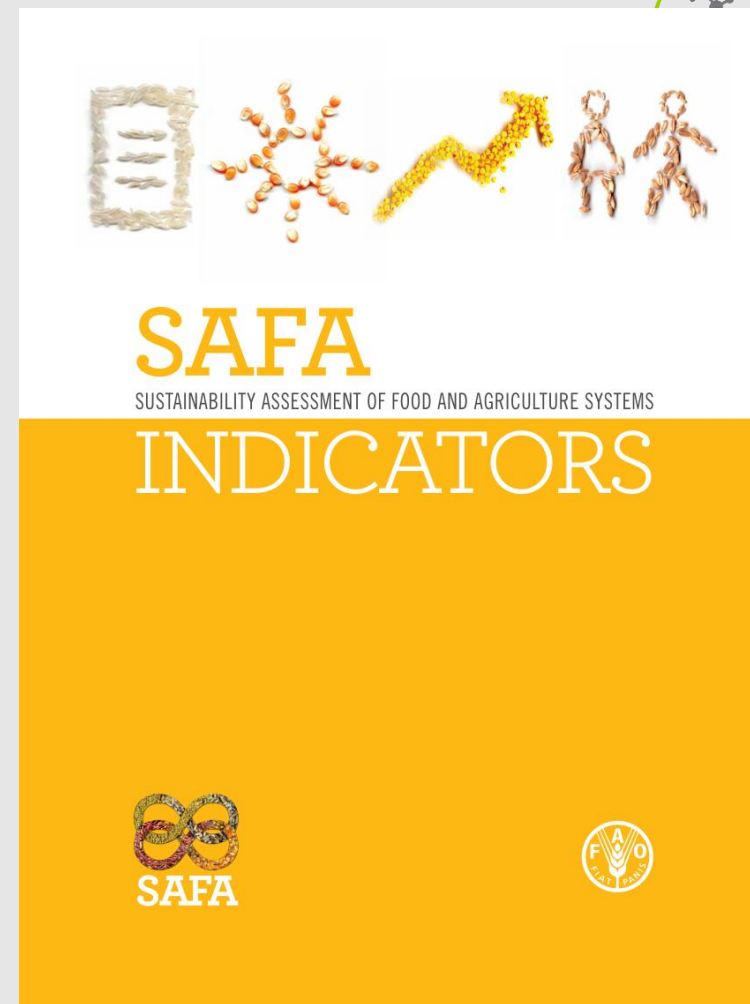
Means-based indicator (e.g. farming practice) vs. effect-based indicator (e.g. ecosystem quality)

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Examples



OECD Indicators – Environment at a Glance:
platform for environmental indicators

SAFA - Sustainability Assessment of Food and Agriculture systems: 118 indicators, tool



Selection of indicators

On various criteria:

- relevance; practicability; end user value
- parsimony (not redundant); consistency (all necessary indicators)
- representativeness; availability of historic data (to show the reliability of the indicator); computation at acceptable cost
- reliable; reproducible; controllable/checkable
- possible to clearly present results to avoid misinterpretation



To combine or not combine?

We may need several indicators to measure several themes

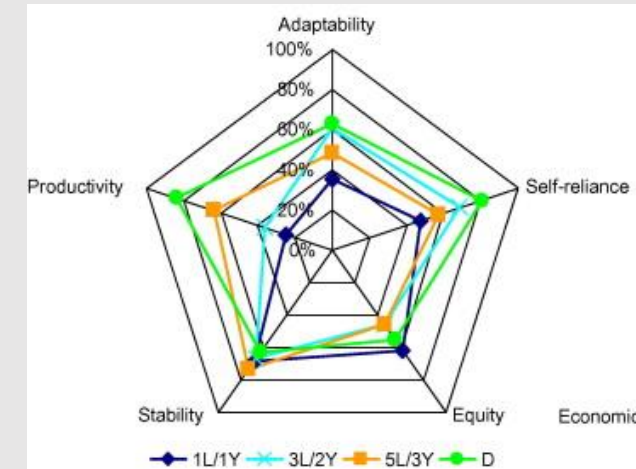
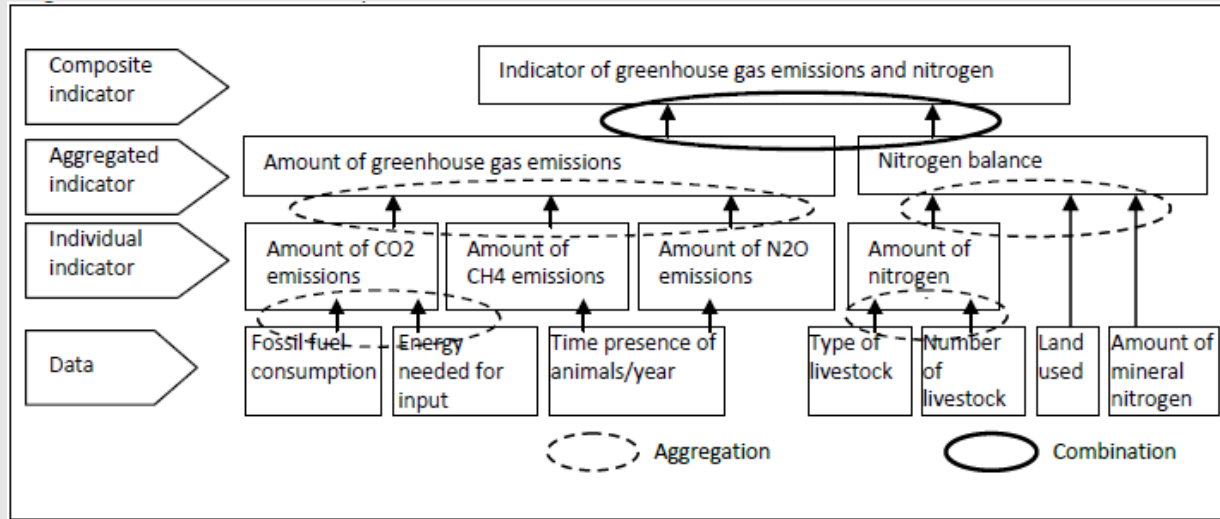
Example of environmental indicators: multitude of indicators due to the variety of themes covered and due to society's interest

What strategy?

- To consider only a specific theme?
- To compute one single composite indicator?
- To assess trade-offs between themes?



To combine or not combine?



Diazabakana, A., Latruffe, L., Bockstaller, C., Desjeux, Y., Finn, J., Kelly, E., Ryan, M., Uthes, S. 2014. **A Review of Farm Level Indicators of Sustainability with a Focus on CAP and FADN.** EU FP7 FLINT (Farm-Level Indicators for New Topics in policy evaluation), Deliverable 1.2.

Ripoll-Bosch, R., Díez-Unquera, B., Ruiz, D. Villalba, E. Molina, M. Joy, M., Olaizola, A., Bernués, A. 2012. **An integrated sustainability assessment of mediterranean sheep farms with different degrees of intensification.** Agricultural Systems, 105(1): 46-56.

Need weights: obtained from experts
Subjective! Should be at least transparent



Perspectives

- Gap between availability of data and information needed by theoretical indicator frameworks (e.g. social dimension of sustainability) → **data needs**
- Indicators often measured at a small-scale only → **expand**
- Multitude of local initiatives of indicators → **harmonisation** of indicators for broader comparison

Russillo and Pintér (2009, Linking Farm-Level Measurement Systems to Environmental Sustainability Outcomes: Challenges and Ways Forward, International Institute for Sustainable Development (IISD)):

‘the process of developing an indicator system requires collaboration, cooperation and even compromises. It is an evolutionary process, as we learn from the system and the different stakeholders’

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