Sustainable intensification in a post-Brexit landscape

Richard Gunton





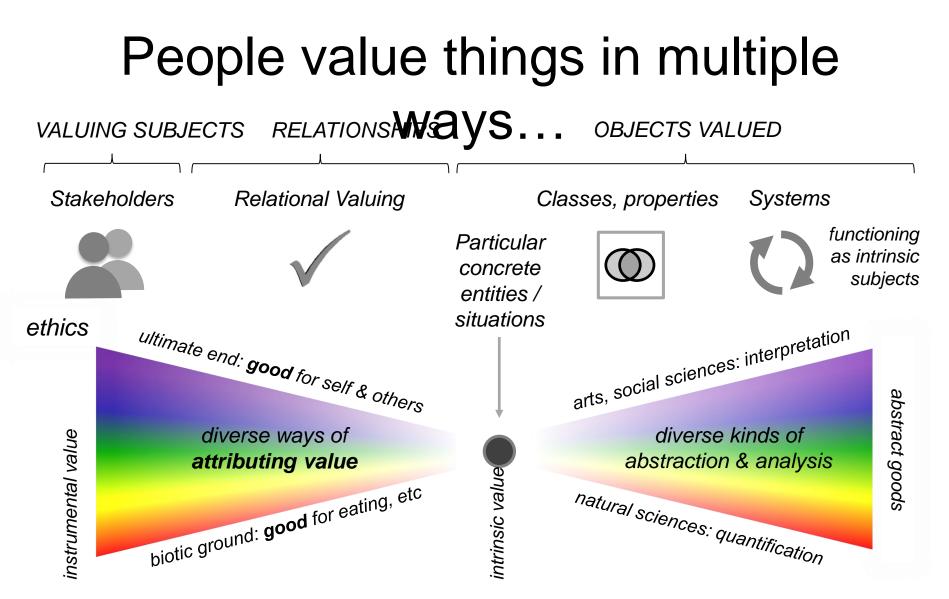
Centre for the Evaluation of Complexity Across the Nexus

[Abstract]

Faced with a step-change in economic constraints and the ongoing call to be more 'competitive', the agricultural sector is likely to experience major change in the coming months and years. Farmers will need a clear vision of their business models, regulatory constraints and strategic possibilities in the changing landscapes that lie ahead. This talk explores how the concept of sustainable intensification offers a unifying framework for valuing nature and other goods, and how various players in the agricultural sector may best cooperate to achieve optimal outcomes. It draws upon a pluralistic evaluation framework offering a set of categories for thinking about the full diversity of stakeholders, values and systems that diverse agri-environmental businesses, regulatory bodies and NGOs may be concerned with.

Overview

- **1. Valuing** nature and other goods
- **2. Sustainable intensification** as a unifying systems framework
- 3. Diverse players: their roles in the agricultural sector
- 4. A **pluralistic evaluation framework** across values, systems and players



Even what we value depends on our education, work, life story...

- What *particular* things do we love?
- What do we recognise as *goods*?

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comment

How scalable is sustainable intensification?

Sustainable intensification is a concept of growing importance, yet it is in danger of becoming scientifically obsolete because of the diversity of meanings it has acquired. To avoid this, it is important to consider the various scales on which it can aid progress towards feeding human populations while also protecting the environment.

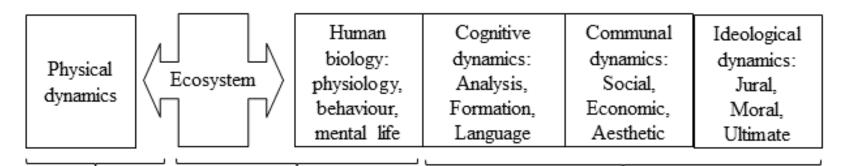
Richard M. Gunton, Leslie G. Firbank, Alex Inman and D. Michael Winter

A canonical definition of sustainable intensification:

 Changes to a farming system that maintain or increase the production of specified agricultural products while enhancing or maintaining the delivery of a specified range of other ecosystem services, measurable from a specified area and over a specified time-frame.

SI brings a systems framework

There are layered systems to consider...



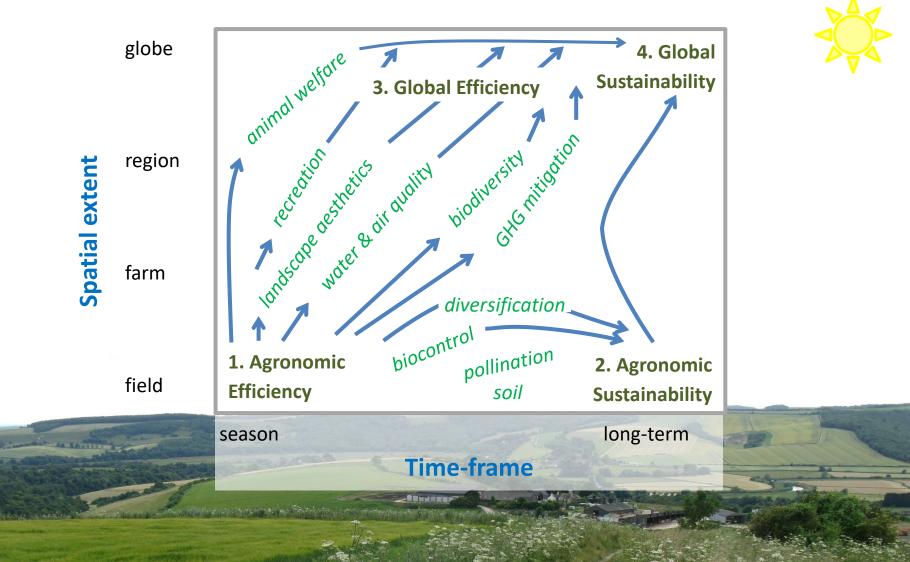
Physical systems Biotic systems (plant, animal, human)

Cultural systems

...calling for a multi-disciplinary approach

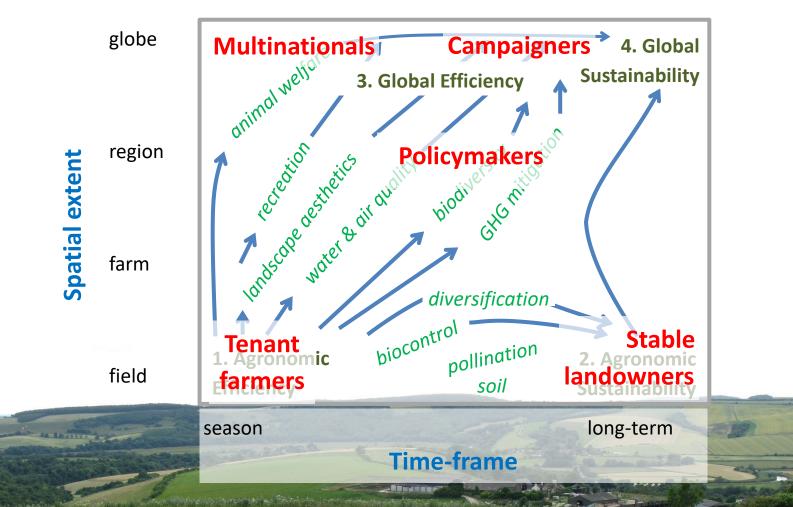


We can specify our ethical horizons



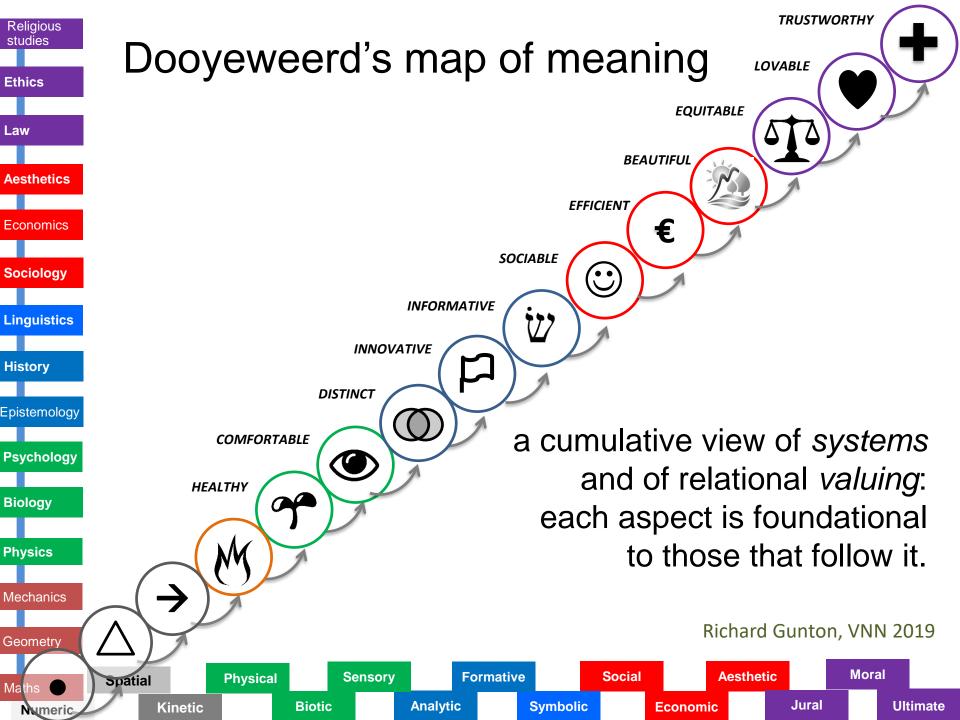
Adapted from Gunton et al. (2016) Nature Plants 2:16065

Recognise players in the landscape...



...whose horizons and perspectives may differ

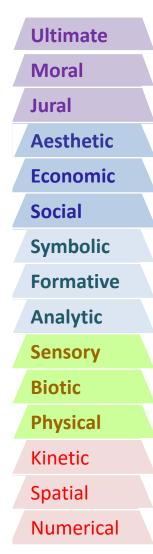
Adapted from Gunton et al. (2016) Nature Plants 2:16065



A Pluralistic Evaluation Framework

WHO?

COMPLEX SITUATION



Systems mapping

WHAT?

0

C

Value studies

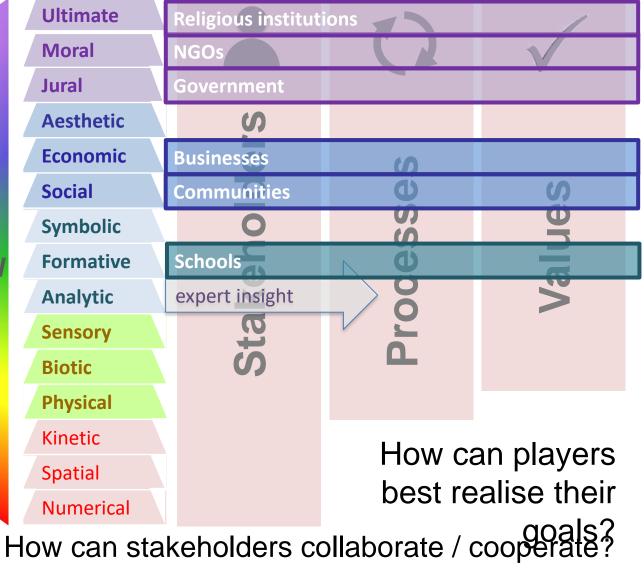
HOW?

Demographics

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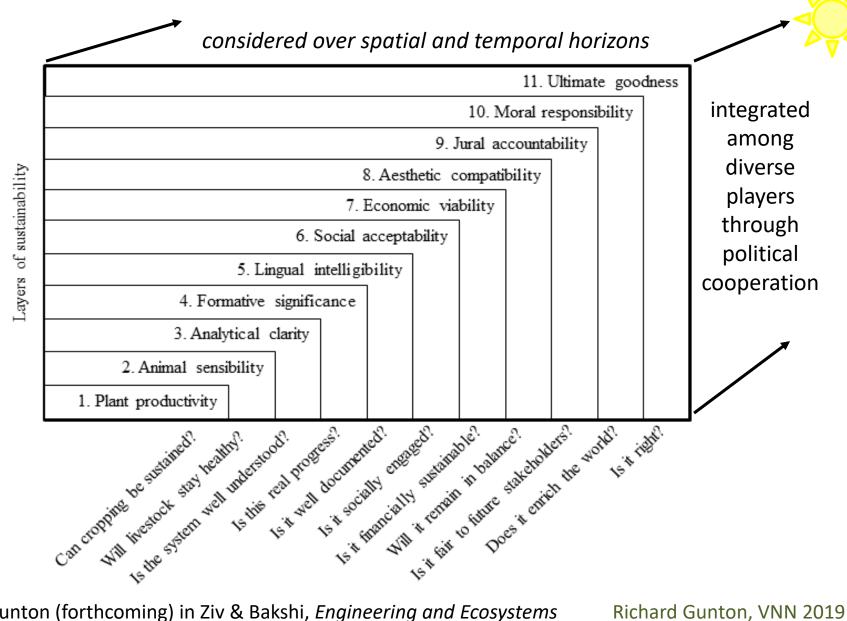
Integrating different players' roles

Primary mandate of policy:



COMPLEX SITUATION

Layers of sustainable intensification



From Gunton (forthcoming) in Ziv & Bakshi, *Engineering and Ecosystems*

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Conclusion

- Sustainable intensification is a broad term inviting players to clarify their ethical horizons
- A value-pluralism model helps do this
- A **layered systems** model (e.g. Dooyeweerd's) helps analyse environmental complexity
- A **pluralistic evaluation framework** helps put it all together, pointing to opportunities for economic collaboration and political cooperation.

THANKS TO...

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Centre for the Evaluation of Complexity Across the Nexus <u>www.cecan.ac.uk</u> Eline van Asperen Andrew Basden David Hanson Yoseph Araya Dave Bookless Mark Goddard George Otieno Gareth Jones



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www.thinkfaith.net



Richard.Gunton@Winchester.ac.uk