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Towards sustainability and resilience: the value of social processes

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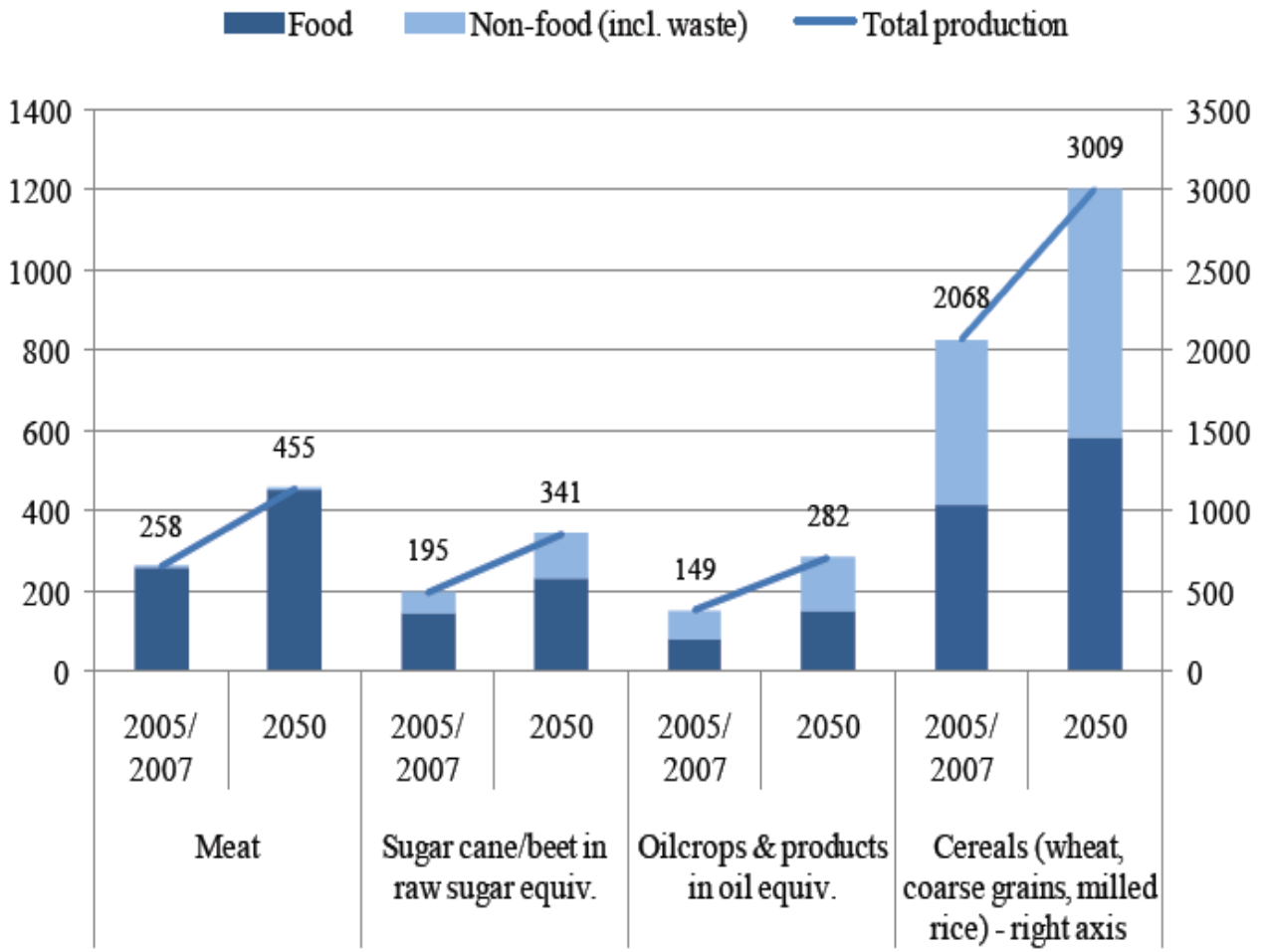
Outline

- Reminder: challenges for society and rural land use
- Social processes – what they mean, why they matter
  - Examples from CCRI research
  - Contemporary illustrations for post-Brexit transition
- Conclusions: an agenda for action in research, policy and practice

Global Food demand: Projections to 2050



'*Global resources are sufficient, but the devil is local*'

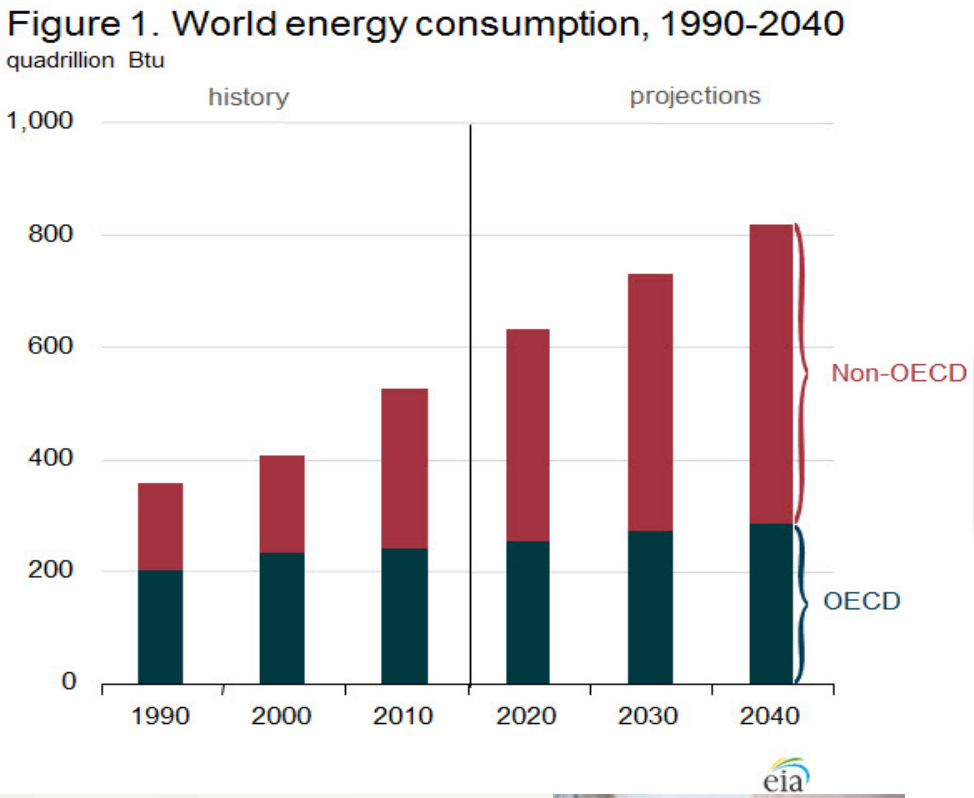
Demand for food will grow <1.2%/year until 2050 *(half the rate of 1970-2010)*

Required growth in food production much lower than before

Demand and supply potential are mainly in the developing world, not Europe

FAO, 2012

Energy prospects



- In USA and EU, debt is slowing demand (USEI, 2014)
- Elsewhere, unrest & conflict triggers price volatility

Ø *Difficult to predict future prices*

- Climate change affects supply + demand; both suggest likely growth in renewable energy

Ø Modern agriculture is a significant user: ‘Energy equals 15-30% of the cost of crop production’ (MGI, 2013)

Climate - issues for agriculture and forestry

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Impacts

- Crop yield – increases from warming / limitations from droughts or flooding ($\longrightarrow$ more variable)
- Increased severity of flooding, coasts and river basins
- Increased intensity and frequency of forest fires
- Soil erosion, from more drought and/or more extreme events (floods, fires, storms)
- Rural economic vulnerability (e.g. tourism declines / is limited)

Mitigation needs

- Protecting and building topsoil-C, both mineral and peat soils
- Reducing methane emissions from livestock and manures
- Reducing N-O emissions from cropped soils and manures
- Producing renewable energy (AD, solar, geothermal, wind, hydro)

Economic outlook (after Piketty, 2014)

- After the turbulence of the 20th Century, we are returning to a global pattern of relatively slow growth
- Most future growth will be where populations grow – in the developing world
- In the developed world, low growth and population stasis will combine with diverging incomes (bigger gaps, rich and poor)

Ø Successful (developed) economies will be those which can reduce these disparities, become more efficient in using resources, and maintain well-being, in a 'steady state'

– we cannot expect to grow our way out of difficulties, indefinitely

Social Trends & prospects

- Continuing expansion of digital society, virtual communities, converging global lifestyle aspirations
- Migration flows in UK rural areas – will these change significantly post-Brexit?
- The challenge and opportunities of ageing, for rural areas
- Rural accessibility to/for young people – priced out?
- What role for culture, tradition, sense of place + belonging, in future?

Implications for rural activities & resources

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Agriculture, energy generation and the food sector must become much more resource-efficient:

- using fewer non-renewable inputs
- conserving carbon, soil and water, and
- reducing or eliminating waste

Communities and families must be enabled to cope with likely reduced public support

Evaluation lessons: Weaknesses in current projects and policies

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Insufficient attention to participant feedback & advice – *for building awareness, understanding, enhancement*

Central, top-down management ideas imposed upon local actors

- *not sensitive to local conditions*
- *remove farmers' incentive / opportunity for innovation, show little respect for local knowledge*
- *some conditions are too restrictive to work, others are simply wrong!*

Tensions with economic drivers + capacity issues:

- people, customs and cultures strained, signs of system break-down

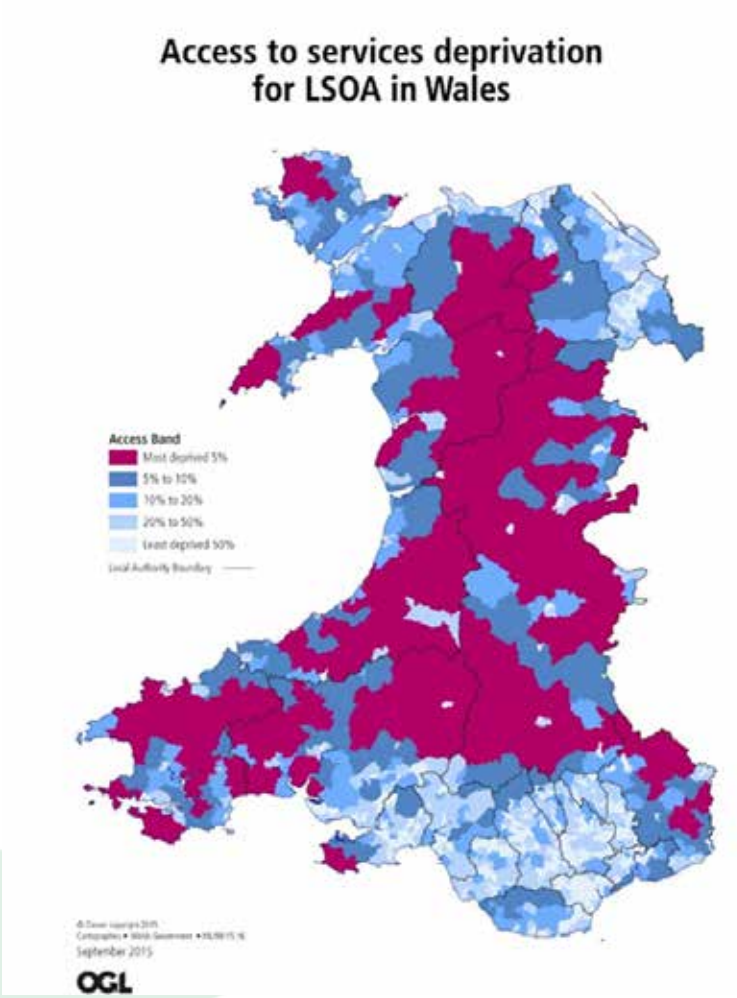
- untapped potential to work with market trends

Piecemeal / narrow approaches to complex and interlinked issues – *lack holistic solutions, new / multiple land uses, robust climate resilience*

System breakdowns – environmental and social

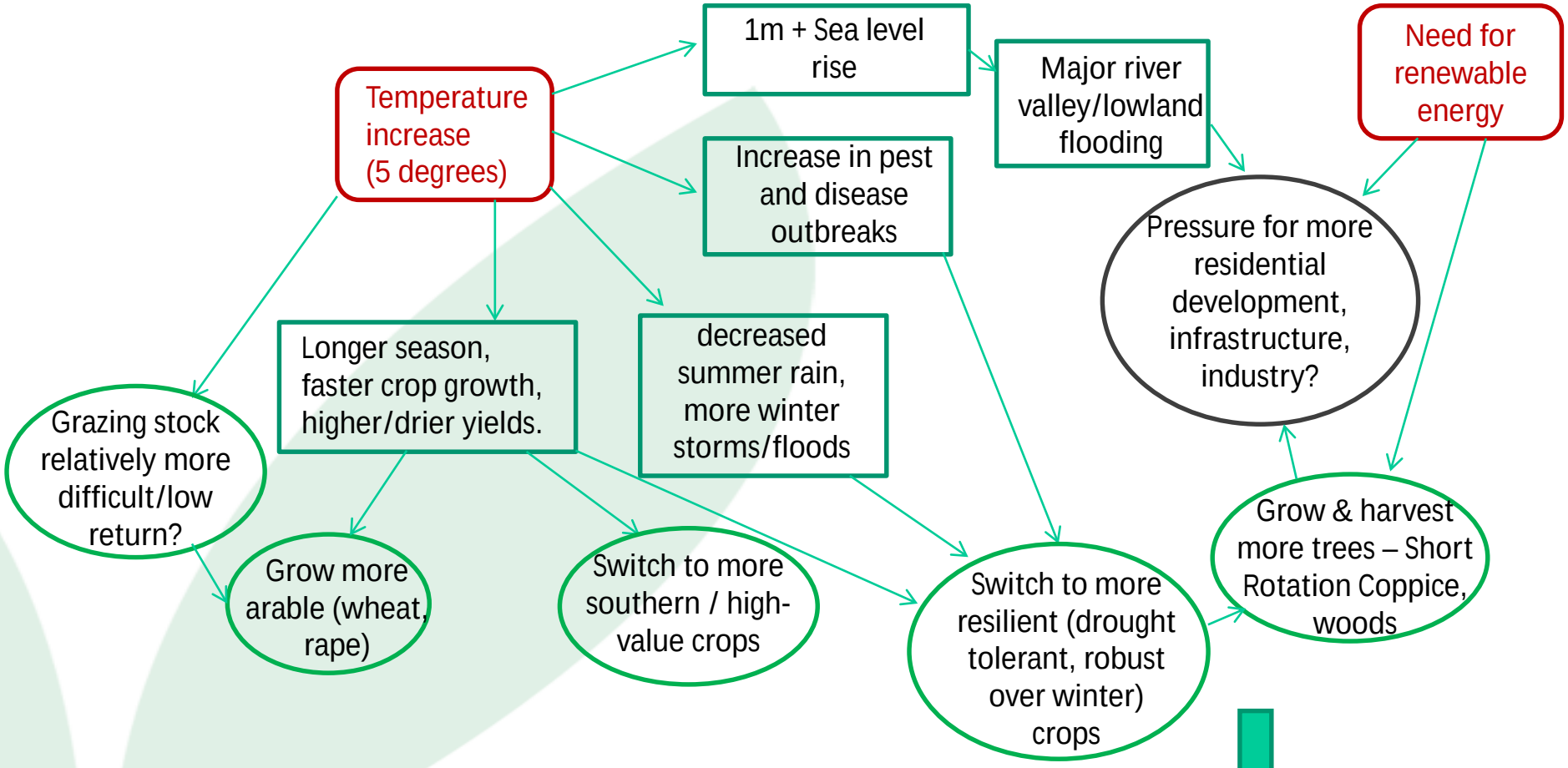
Moorland: in schemes, but under-managed

Enclosed land farmed harder with more stock



‘Significant social, welfare and health concerns among farm families, particularly in Carmarthenshire, Powys and Gwynedd’ (WRO, 2014)

Systemic processes: always consider the linkages…



Will affect changes in physical structure, more mixed uses, more constructed elements, more intensity of use – more people needed to manage all of this?

Social processes: what are we talking about?

'It ain't what you do, it's the way that you do it……'

- To achieve anthropogenic, positive environmental change requires action by people and societies
- This happens when actors are motivated, aware, engaged, willing to try to change – as individuals, and in groups / networks and partnerships
- Goals and resources are important, but knowing how to move successfully from A to B is equally necessary
- Economists talk about 'transaction costs' – our work highlights the potential value of 'transaction synergies', too

Why Do Social Processes Matter?

PEGASUS
Public Ecosystem Goods and Services from land management – Unlocking the Synergies

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- Innovations in research and policy are only effective if people can adopt or respond to them
- Rural environmental and social assets rely upon the everyday actions of farmers and forest-managers, also others living and working among them
- coming together in local communities and along supply chains to share knowledge and ideas and organise action together

- understanding why and how this happens

is vital for securing increased and

more widespread benefits

- We found a wide range of robust and resilient cases in PEGASUS, in 10 countries, examining 34 different initiatives: www.pegasus-ieep.eu

This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreement No 633814

CCRI Projects involving farmers and communities in co-investigation, co-learning, and co-design of solutions

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SOILS know-how

Farmer field labs + farm-level innovation = ‘teas’ to stimulate microbiology & soil function, green manures + cover crops, woodchips for SOM + structure, biological and management control for persistent weeds

WATER + Integrated Local Delivery

Covering 118 farms + estates, advice for 22,692 hectares supported by 24 ‘farmer guardians’ – sustainable pesticides, wetland management, margins, woodland, 90km rivers + ditches enhanced, natural flood management developing with 18 local communities

My thanks to Jane Mills, Julie Ingram, Kamilla Skaalsveen, Chris Short, CCRI

Wider relevance of Pegasus case studies

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- Examining how these developed and people secured beneficial change, we can see the role of different drivers and constraints upon behaviour
- This shows where and how new instruments or approaches can help – acting *in combination* with existing market and voluntary motivations, not against them
- Initiatives that encourage collective action or foster positive social responses can encourage and spread good practice beyond the 'early adopters'

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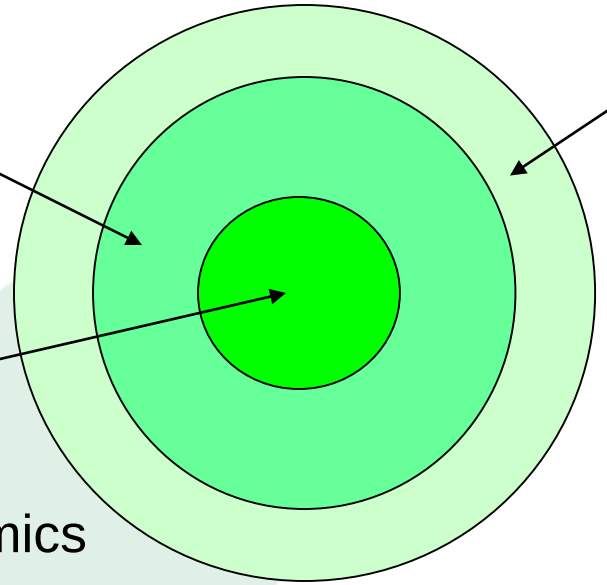
Messages matter – they affect outcomes

Community level: cultures, networks, attitudes

Farm Level: Individual, household & enterprise dynamics



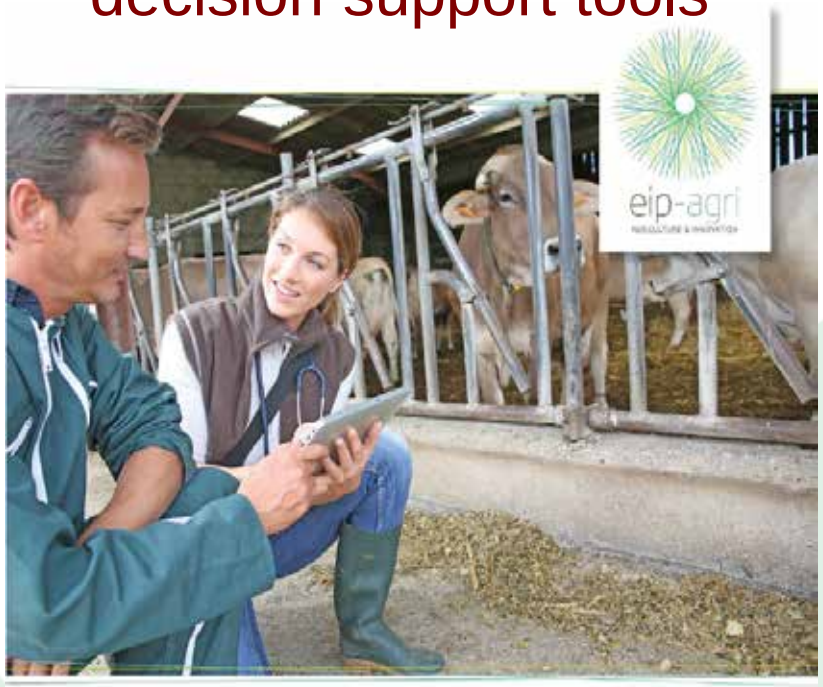
Societal Level: What role does society want farmers to play?

Environmental innovation works better when it:

- *is sensitive to farm-level concerns*
- *works via community links*
- *offers land-based businesses and families a positive self-image, trust and societal respect*

Dwyer et al, 2007

Another example – decision support tools



EIP-AGRI Workshop
Tools for environmental farm performance

FINAL REPORT
SEPTEMBER 2017

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What is needed to form an Operational Group?

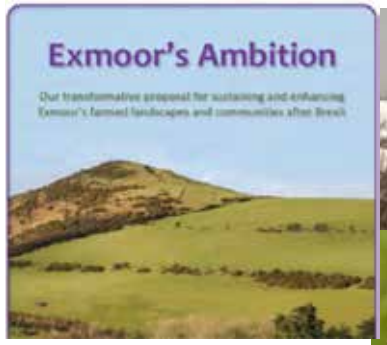
Trust is the most important issue. It should be achieved by means of transparent governance and funding. Trust should lead to farmers' engagement in the Operational Group, along with other actors. Environmental goals are also important to clarify. The group needs to be open, involving environmental NGOs and seeking clear and measurable results.

The project could start with a clear **identification of the environmental need(s)** and the question of whether EST is the right approach. There should be an initial check/audit of whether appropriate tools already exist, to serve the need (there are already many tools available).

The OG should then identify the **opportunity** in respect of both farmers' and beneficiaries' perspectives. Examples: develop a tool or a decision-support system to compare the carbon footprint between organic and synthetic fertilisers; or a tool to determine the soil organic matter and mineral content, to enable management to improve soil function. Considering the Coordinated Management of Ecological Focus Areas at landscape scale - these are an obligation, so farmers and environmental NGOs might as well try to get the best outcomes from them, together. The cumulative impacts of co-ordinated planning and implementation of farms' EFA might have positive impacts on farm management, and co-ordinated approaches at landscape/watershed/... level might be able to deliver ecosystems services at levels where farmers see a resulting benefit for their farm (e.g. better pollination, flood/drought control, ...).

The OG should involve all concerned stakeholders (as was mentioned already) and create a strong partnership through meetings between farmers and partners to identify farmers' needs and existing practices. This means involving a critical number of farmers in the targeted landscapes/regions where environmental benefits are sought. It might be easier to work via farmers' associations to achieve this, or advisers and their client networks. Tool developers and scientific support should be involved, also NGOs could help to communicate the farmers' efforts and achievements to members and to the wider society. Key supply chain actors should also be there, to aim to achieve a return from the market for farmers' delivery of environmental goods.

Post-Brexit: English bids to run pilots emphasise social processes



Better tailoring + local knowledge – *Exmoor*

Re-building trust

'*canvassing local farmers indicates an erosion of previously high levels of farmer commitment to stewardship, into fragmented and variable levels of engagement'* - *Broads*


Dartmoor: farmer support

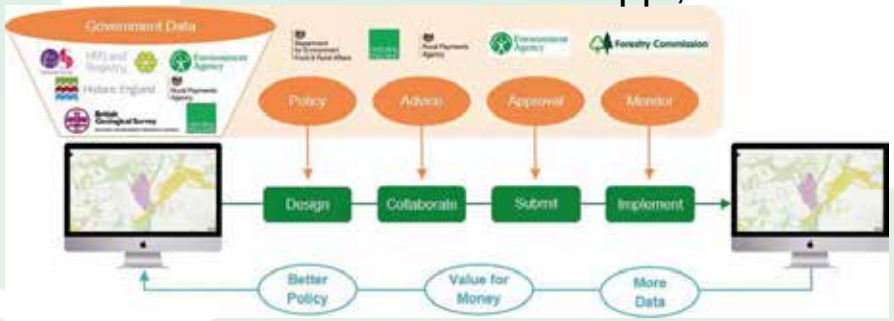
Efficiency

Advisor-supported management plans + agreed outcomes, simpler admin procedures, 'self-reporting and peer review to ease monitoring / control burden' *Dartmoor*

Learning and engaging

"Our farm cluster is in its early days but we're already seeing things we can achieve working together – and sharing with the local community. I'm very interested to take part in any pilot agri-environment scheme where farmers are working together to achieve results at a landscape level." *South Downs farmer*

Innovation - the 'Land App', S. Downs



Focus on results

'The most challenging thing so far is being able to count all the birds – for some farmers this has been really difficult due to the high numbers in the field... It's a nice problem to have!' *Yorkshire Dales*

Looking ahead – key points

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- Brexit will change agri-food markets, policies and wider economic conditions, over time
- Environment may replace production as the priority of future support, but the scale of support will probably shrink
- Some local actors are ready, but many feel marginalised, frustrated, misunderstood:

Ø the food 'disconnect', big issues with society and policy

social needs often invisible, unvalued

fears about future viability for smaller farms, remote communities

- The pace and scale of environmental change is uncertain

Ø Are we readying people for major adjustment / adaptation?

A future agenda

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- Public attitudes and farmer awareness have changed, and are still changing:
  - *need to challenge and change lifestyles*
  - *need to plan longer-term*
  - *no one side has all 'the answers'*
- Farms, communities and institutions need to prepare, up-skill, help each other. *Need to rebuild TRUST*
- There is much to investigate and research: *climate adaptation, new business ideas, integrated approaches, green technologies, food chain transitions*
- The Brexit 'opportunity' has spurred new ideas, enthusiasm: an appetite for doing things differently and better….

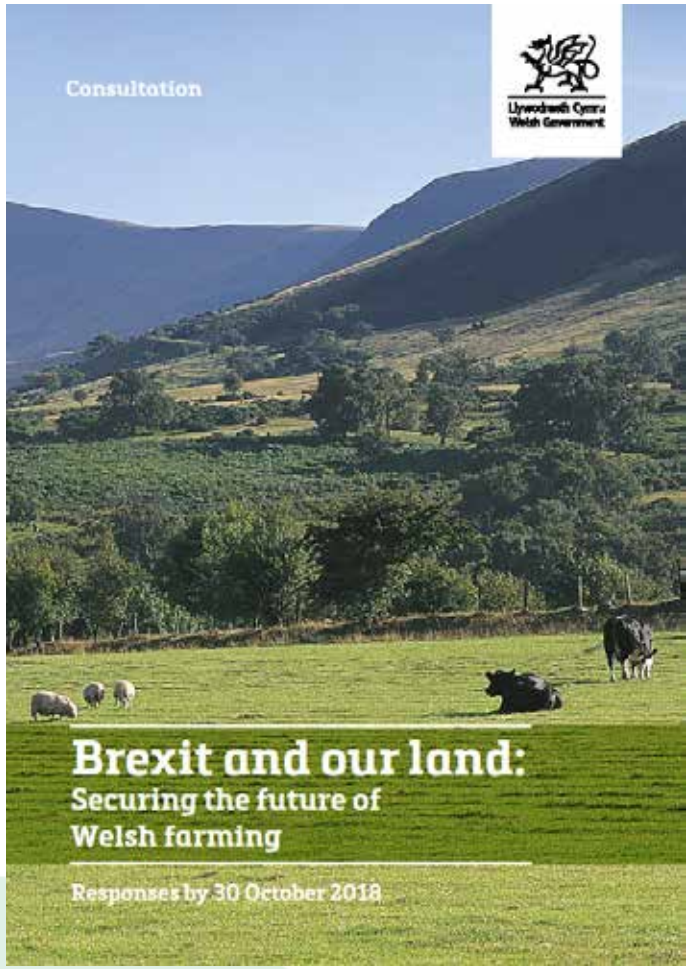
The prospects in Wales

- North, mid and west Wales uplands may suffer negative economic, social and environmental impacts; the south and east, more diverse impacts; with growing social needs in isolated and remote settings and social conflict in pressured locations;
- New opportunities for agriculture and other sectors e.g. forestry, adding value, short supply chains – depend upon innovation, sustainable design and creative entrepreneurship
- Novel ideas, creating strong networks between different actors – skills, partnerships, access to finance and confidence to change will be key

Dwyer, 2018

'Brexit is the catalyst for land management reform in Wales.

There is a strong case for continuing to support our land managers, but we need to do it a different way to harness all the benefits that our land can yield for the nation'



Foster positive social processes

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- Mainstream the use of **capacity building** as a central element in projects, research and policies
- Promote new approaches in **collective / group settings**, where land managers and community actors partner with experts
- Prioritise the funding of **facilitators**
- Make time to **celebrate successes!**

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Thank you!

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