



Sustainability and public good provision Alternative demands on land

Cathal Buckley
Agricultural Economics & Farm Surveys Department,
Rural Economy & Development Programme.

Overview of the presentation

- Agricultural land use and farm structures
- Economic and environmental services provided by land
- Public goods / services from agriculture
- Farmers attitudes to public good provision in the next CAP

Agriculture in Ireland

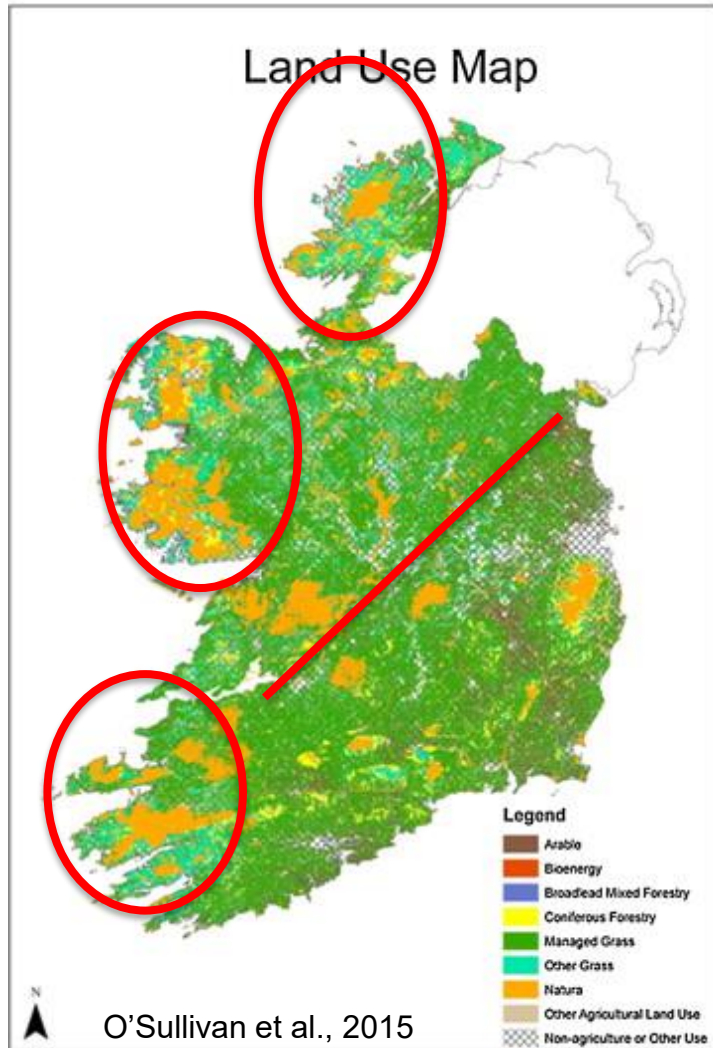


Source: Teagasc

- 6.9 million hectares
 - 4.52 million in Agriculture
 - 0.78 in Forestry
- 92% under grassland
 - Pasture, hay, grass silage (82%)
 - Rough grazing (10%)
- 8% to arable
 - Cereals, Potatoes, Beet, Oilseeds, Beans and Peas (6.5%)
 - Fruit & vegetables (1.5%)
- 85-90% of production (sector depending) is exported

Source: CSO 2020, Coford 2017

Land Use & Land Use Potential



Region	Wide	Moderately Wide	Somewhat limited	Limited	Very Limited	Extremely Limited
ROI	23.4%	11.7%	15.0%	21.0%	25.5%	3.1%
Connacht	3.6%	13.8%	18.5%	21.8%	37.7%	4.6%
Leinster	32.9%	21.4%	16.9%	15.0%	12.5%	1.5%
Munster	36.4%	3.1%	11.3%	22.8%	22.7%	3.7%
Ulster	2.6%	9.8%	14.2%	29.7%	41.2%	2.5%

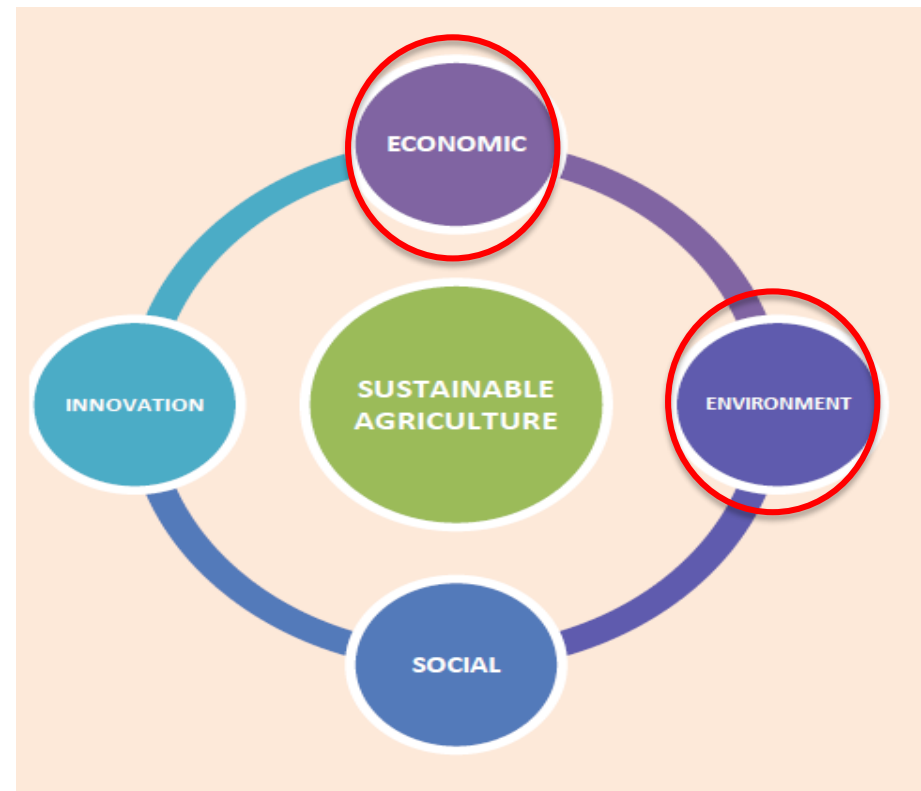
Farm Structures

	No. of Farms	% of farms	
Specialist beef production	78,300	57%	76%
Specialist sheep	15,100	11%	
Mixed grazing livestock	11,600	8%	
Specialist dairying	16,100	12%	14%
Mixed crops and livestock	2,100	2%	
Mixed field crops	8,200	6%	9%
Specialist tillage	4,700	3%	
Other	1,300	1%	1%
All farms	137,500	100%	100%

Source: CSO, 2017

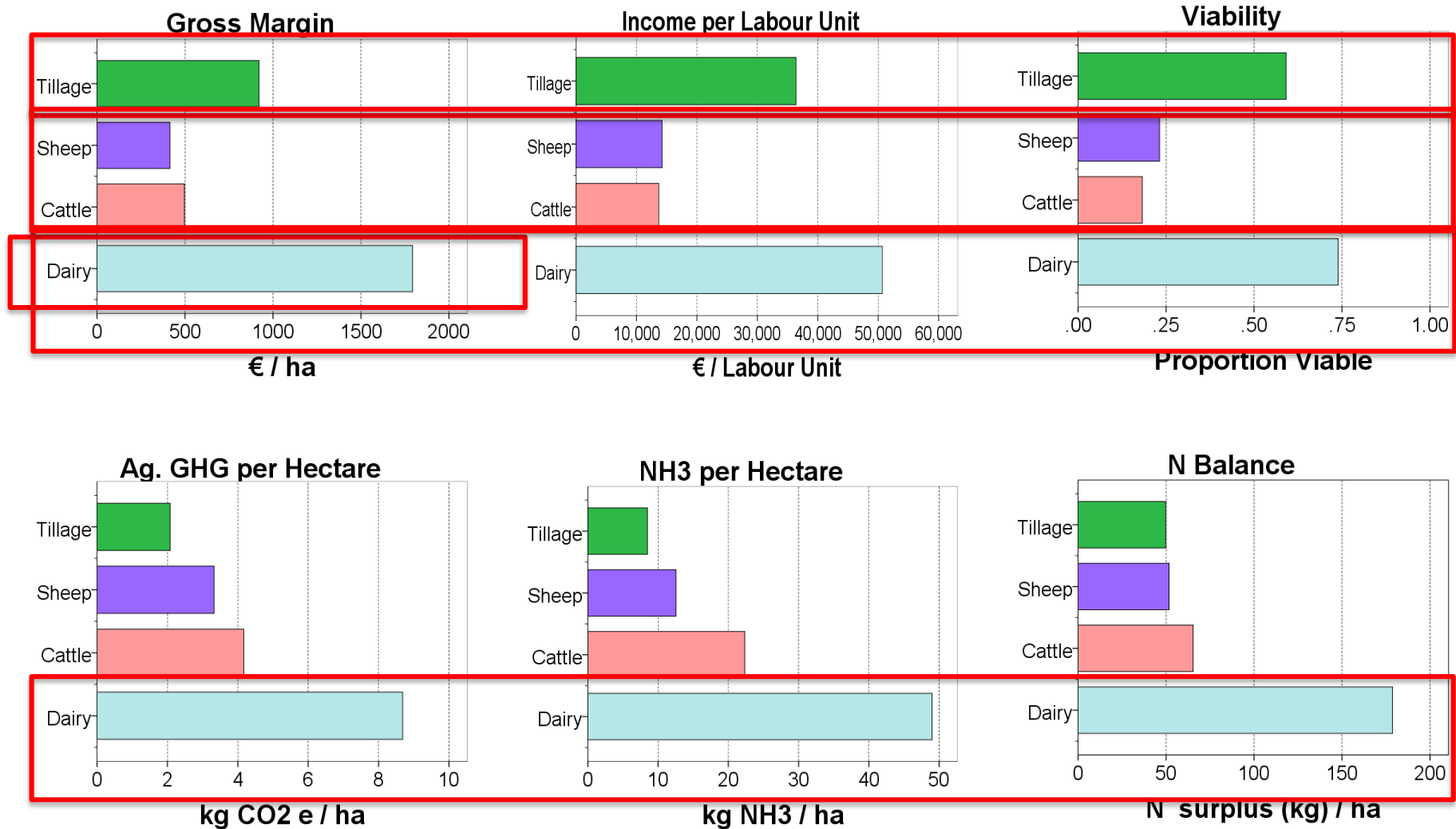
Farm Level - Sustainability

- 5 Teagasc sustainability reports (2013-2019)
 - 4 Farm Systems (Dairy, Cattle, Sheep, Tillage)
 - Teagasc National Farm Survey Based (EU FADN)

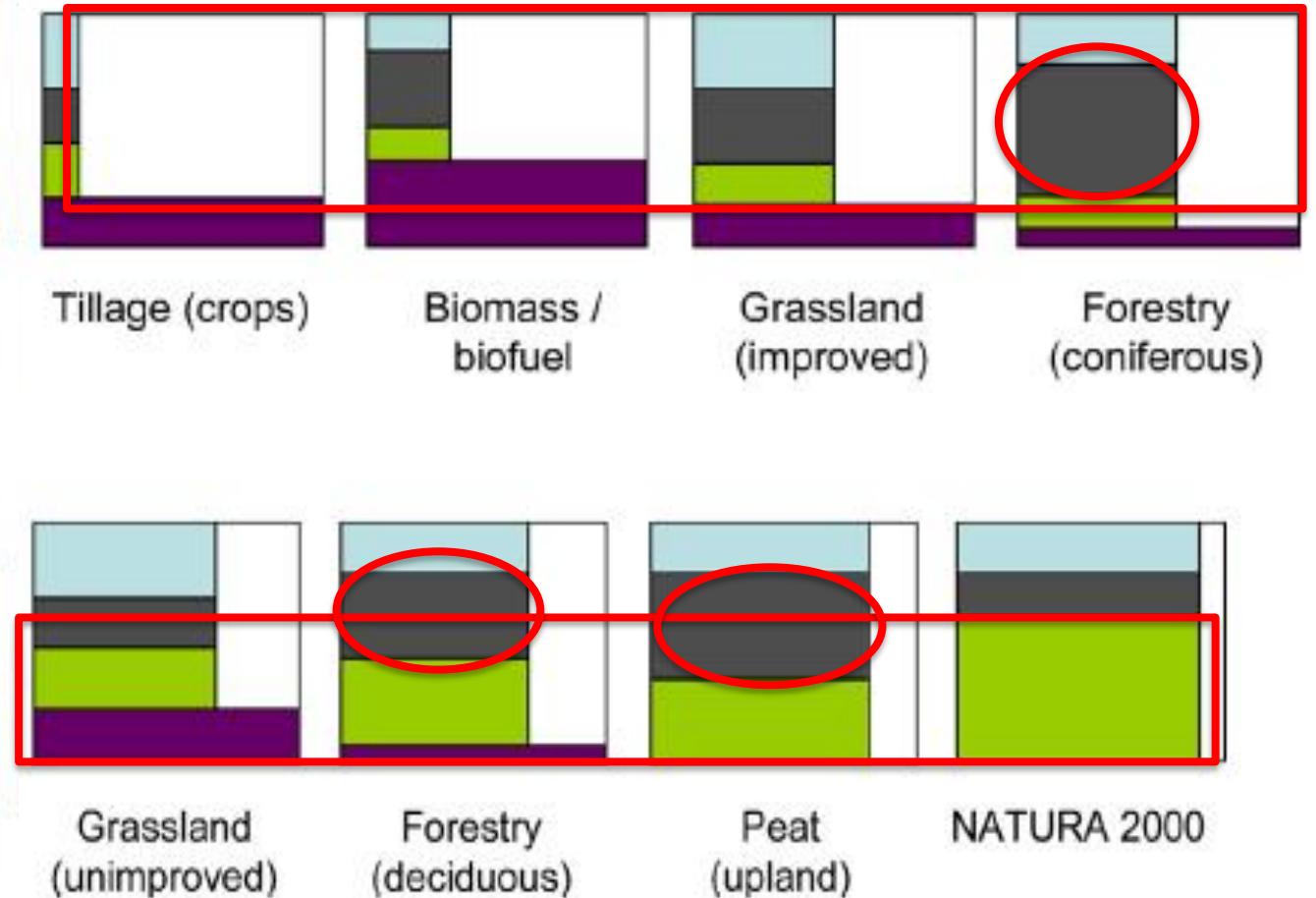


<https://www.teagasc.ie/rural-economy/rural-economy/national-farm-survey/sustainability-reports/>

Economic & Environmental Indicators



Land Use – Service provision



Schulte et al., 2014

Services / Disservices provided by Agriculture

1. Provisioning

- Food, fuel and fibre

2. Rural vitality

- Direct or indirect employment related to farming

Market based

3. Environmental quality

- Water quality through filtration
- Carbon sequestration
- Flora and fauna based biodiversity

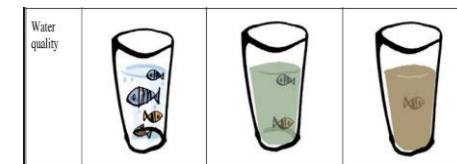
Non-Market based

4. Cultural heritage and quality of life

- Recreational access
- Aesthetic landscapes
- Tourism / heritage

Private Goods vs Public Goods

- Private Good (Market Goods)
 - Defined market
 - Prices / quantities are established
 - Invisible hand – Market finds equilibrium
- Public Goods (Non-market Goods)
 - Market Absence - no market signals (prices / quantities absent)
 - » A good/service could be over or under supplied
 - Trying to measure things that are difficult to measure
 - » Require alternative techniques and methodologies
 - » Non market valuation techniques - typically use **survey methods**



Public Good Provision – Tool Box

- Incentivising land manager to provide the desirable level of public goods

1. Regulations

- EU Nitrates, Water framework, Habitats Directive, Climate Action

2. Market Based Mechanisms / Instruments

- Economic Incentives
 - » Targeted agri-environment scheme based subsidies
- Create a market – Burren Life

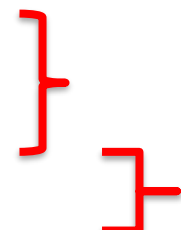
3. Education / Extension approaches

- Benefits of public good provision
- Social Norms



Farmers – Attitudes to Public Good Provision

- CAP – Sending a signal to farmers on public good provision
 - Currently under reform
- Survey of farmers in the Teagasc NFS 2018:
 1. Options that could be prioritised for funding under the next reform of the CAP.
 - » recoupling of payments
 - » convergence or flattening of direct payments
 - » generational renewal
 - » greenhouse gas emissions reduction
 - » promoting improved water quality outcomes
 - » promoting improved biodiversity outcomes
- Likert type scale from 1 to 5, where 1 was strongly disagree and 5 was strongly agree



Mean agreement score by hill sheep farmers for different potential CAP measure prioritisation



Summary

- A lot of demands on land to provide different services
- Different land types and uses are better for providing different services
- Public goods from agriculture are difficult to measure
- Can be a difficulty in matching incentives to ensure provision of optimal quantity of public goods from agriculture
- Farmers indicate open to provision of public goods
 - Policy challenge

Thank you!



Email: cathal.buckley@teagasc.ie