AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY

The Irish Agriculture and Food Development Authority

REDP

The knock on effect of a change to standard output minimum threshold

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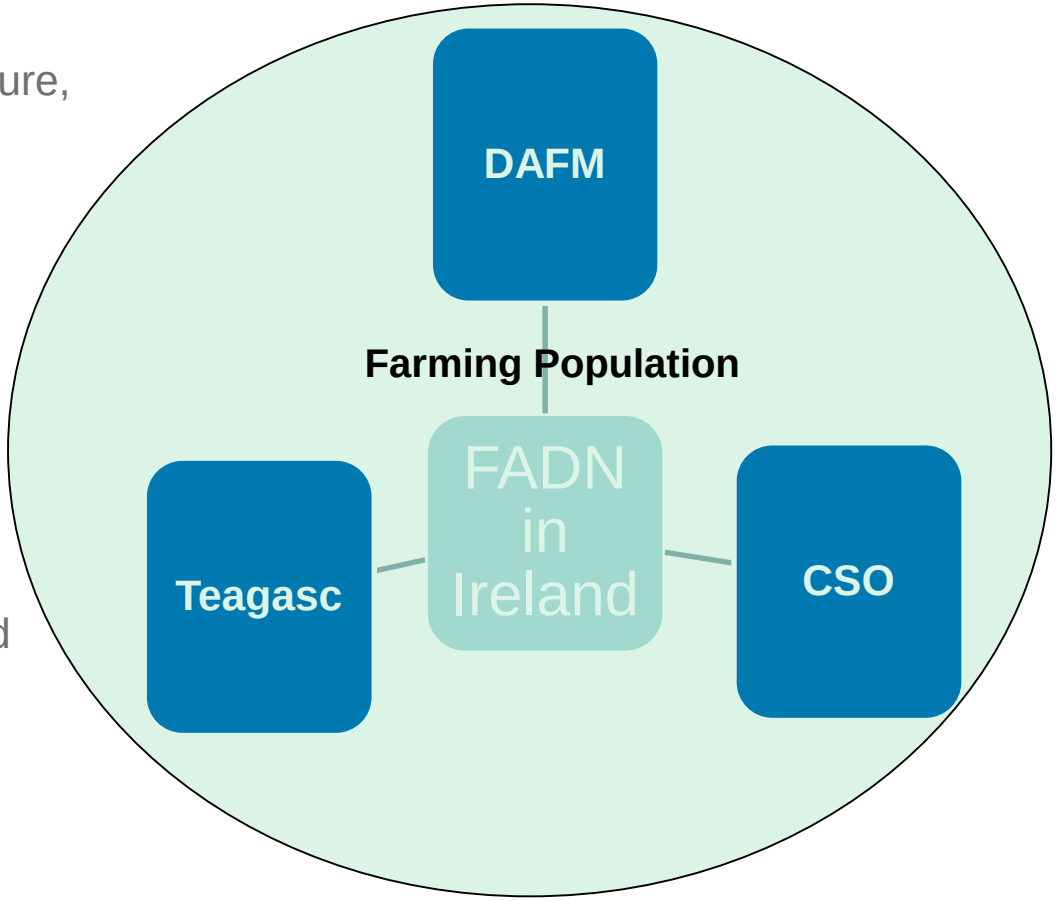
Teagasc
Agriculture and Food Development Authority

Irish FADN – Who's Involved?

- DAFM – Department of Agriculture, Food and the Marine
  - Oversight
- CSO - Central Statistics Office
  - Population Data
- Teagasc – Agriculture and Food Development Authority
  - Liaison Agency



Teagasc

- Teagasc – Pronounced “Chawg-ask” means “instruction”
- Teagasc – The Irish Agriculture and Food Development Authority – research, advisory and education
- Annual expenditure €180 m. and 1200 total staff – 70% State grant
- 240 researchers; 65 subject-matter specialists ; 65 teachers; 250 advisory; 7 research centres; 51 advisory offices and 7 colleges

Teagasc – Liaison Agency

- Has run consecutively for 45 years as the Teagasc National Farm Survey
- Main Objectives
  - Provide Statutory Irish Data to EU Commission (FADN)
  - Determine Output, Costs, Incomes By Farm System(6), Size(7) & Regions
  - Provide Database of Micro Data on Irish Agriculture for Research, Policy analysis & Stakeholders
  - Measure Variation in Technical and Financial performance for Farm Management/Advisory Purposes

Todays Presentation: The knock on effect of a change to standard output minimum threshold

- Why did we change our Threshold from €4,000 to €8,000?
  - Irelands economic woes financial collapse are well documented
  - All government departments, state agencies had to reduce costs
  - Decision - reduce the amount of data collected or reduce the number of farms
  - All agreed under a very short time frame due to the seriousness of the problem but hastiness meant little long term planning was or could be put in place, ”Still trying to catch up”.

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Farm Numbers by Standard Output Band

Table 2: Coverage of the sample

Class	Lower limit (in €) >=	Upper limit (in €) <	Number of holdings	Inverse cumulative %	Utilised agricultural Area (ha)	Inverse cumulative %	Total Standard Output (€'000)	Inverse cumulative %	Number of livestock units (LU)	Inverse cumulative %
1		2,000	17,906	12.80%	162,018	3.55%	18,587	0.43%	24,507	0.42%
2	2,000	4,000	16,808	24.82%	226,772	8.51%	49,950	1.59%	94,960	2.06%
3	4,000	8,000	25,144	42.80%	466,568	18.72%	147,247	5.02%	311,800	7.45%
4	8,000	15,000	26,023	61.40%	704,338	34.14%	289,122	11.75%	635,696	18.44%
5	15,000	25,000	17,570	73.97%	674,555	48.90%	339,812	19.66%	733,919	31.12%
6	25,000	50,000	15,155	84.80%	788,146	66.15%	530,218	32.00%	983,411	48.11%
7	50,000	100,000	11,156	92.78%	678,826	81.01%	801,276	50.64%	1,004,871	65.47%
8	100,000	250,000	8,663	98.97%	684,755	96.00%	1,258,050	79.92%	1,277,163	87.54%
9	250,000	500,000	1,037	99.72%	138,109	99.02%	347,640	88.01%	293,487	92.61%
10	500,000	750,000	182	99.85%	23,373	99.53%	109,525	90.56%	85,135	94.08%
11	750,000	1,000,000	70	99.90%	6,687	99.68%	60,472	91.96%	54,008	95.02%
12	1,000,000	1,500,000	69	99.94%	8,794	99.87%	81,626	93.86%	77,744	96.36%
13	1,500,000	3,000,000	56	99.98%	5,050	99.98%	112,523	96.48%	104,829	98.17%
14	3,000,000		21	100.00%	947	100.00%	151,249	100.00%	105,869	100.00%
Total			139,860		4,568,938		4,297,290		5,787,398	

Source:

Effect of Removing €4,000 to 8,000 SO

- Removed 25,000 farms from the field of observation – 18% of total population but 24% of the existing coverage.
- Removed 0.5 Million Hectares or nearly 11% of the land base.
- Removed 5% of the livestock
- Crucially still left us representing 95% of Agricultural Output – therefore within the rules.
- Lost ~250 farm holdings
- The data collectors are employees of Teagasc, under a restructuring plan we agreed to move from 18 to 13 farm recorders
- Unfortunate there was no 4-6K SO Band.
- Exacerbated by our National Weighting Structure
  - Farm Size (Ha) and Farm System
    - The smaller size farms were much more proportionally affected

National Weighting Mechanism post sample change

Table B: Sample Numbers for 2013 Results (and Representation)

Size (ha)	<10	10-20	20-30	30-50	50-100	>100	Total
Dairy	2 (28)	5 (152)	22 (84)	87 (63)	118 (54)	28 (40)	262 (60)
Cattle Rearing	-	5 (264)	31 (176)	64 (107)	41 (72)	4 (39)	145 (115)
Cattle Other	1 (544)	18 (264)	31 (176)	76 (107)	66 (72)	26 (39)	218 (113)
Sheep	1 (462)	14 (148)	14 (189)	32 (121)	36 (75)	16 (58)	113 (112)
Tillage	-	5 (152)	6 (173)	16 (115)	39 (51)	19 (54)	85 (78)
Mixed Livestock	-	2 (49)	3 (86)	22 (38)	41 (29)	20 (18)	88 (31)
All	**4 (265)**	**49 (199)**	**107 (156)**	**297 (91)**	**341 (58)**	**113 (41)**	**911 (87)**

Note: Representation is the number of farms in the population represented by one sample farm and is rounded to nearest digit in Table B.

- National Weighting versus FADN Weighting
- Serious impact on farms in 0-10 ha and 10-20 ha category
- Affect on the annual results was considerable

By System

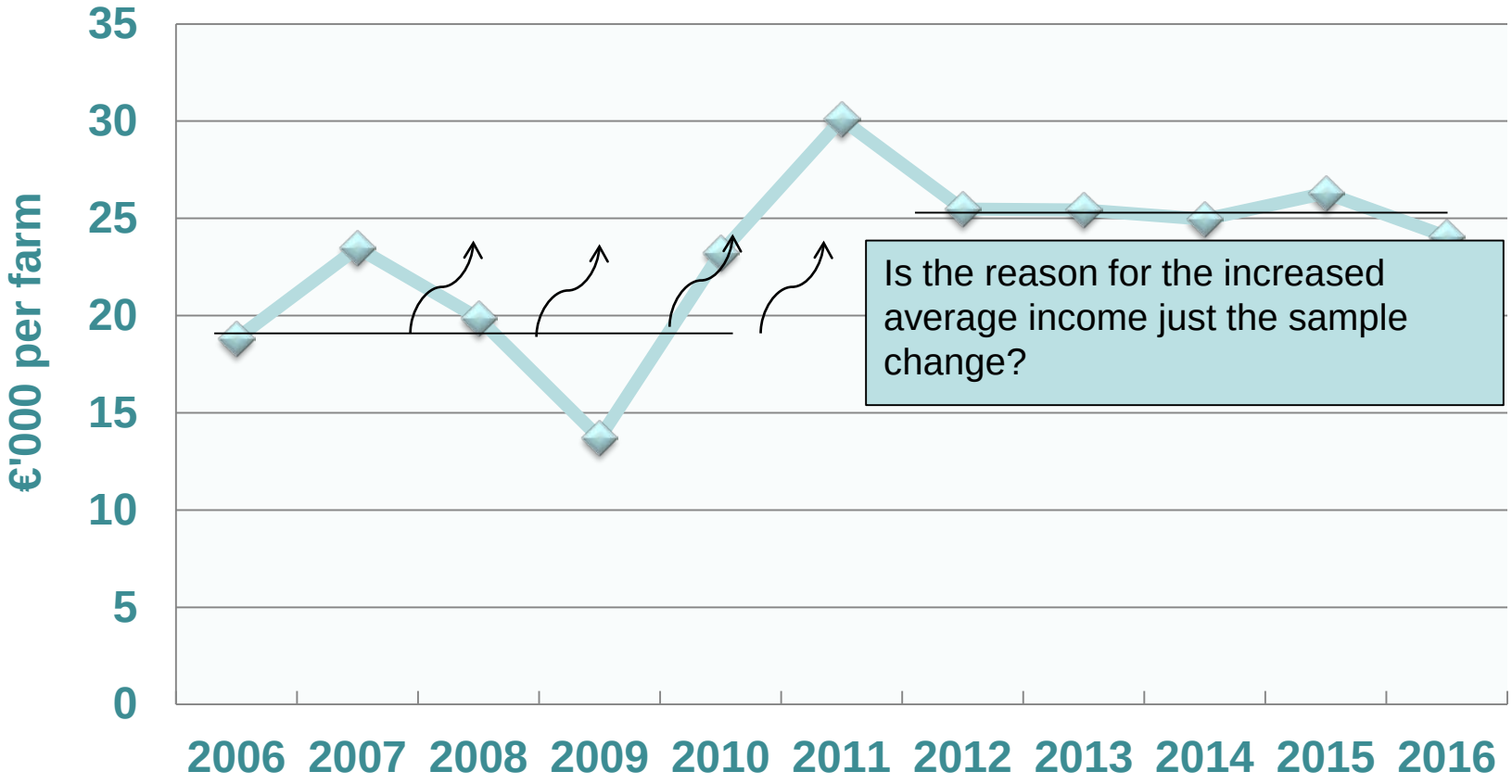
- Pre – Minimum Threshold at 4K SO
- Post – Minimum Threshold at 8K SO

	Pre	Post	Change	%
	Population	Population	Difference	Change
Dairy	15,567	15,654	87	1%
Cattle	61,075	41,381	-19,694	-32%
Sheep	15,212	12,657	-2,555	-17%
Tillage	7,577	6,651	-926	-12%
Mixed Livestock	5,959	2,760	-3,199	-54%
Total	105,535	79,103	-26,287	-25%

Affect on Family Farm Income (FFI) if you applied the €8k SO threshold

	4k SO	8k SO	Change
	FFI €	FFI €	%
Dairy	68570	67847	-1%
Cattle Rearing	10453	12800	22%
Cattle Other	14573	19183	32%
Sheep	16805	19050	13%
Tillage	35296	37092	5%
Mixed Livestock	34902	54980	58%
Overall	24461	30095	23%

Family Farm Income 2006 to 2016



So what's the problem?

Effect on our main objectives

- Researchers & students generally look at farms over time. Now not comparing like with like. Clouds the analysis that there are different types of farms.
- Getting Internal and external pressure around calling our survey “The National Farm Survey” when we don’t' represent nearly 60,000 farm holdings
- 2 Issues
- **Proposed 2 solutions.**
- 1 – Provide a new weighting schema that would allow farms to be re-weighted and which would remove the smaller farms from previous years data sets
- 2 - Small Farms survey that would run every 3-5 years and attempt to provide information on these smaller holdings less than €8,000 SO.

Provide a new weighting schema that would allow farms to be re-weighted and which would remove the smaller farms from previous years data sets

- The sources of data for weighting are the Agricultural Census & the Farm Structures Survey
- The Standard Output Typology has been applied to the 2010 Census of Agriculture.
- Our Central Statistics Colleagues (CSO) have agreed to apply the SO Typology to the 2000 Agricultural Census.
  - We provided SO co-effecients (1998-2002) which they applied to their data
  - We plan to re-calculate revised typologies new SO farming system code for our farms and new SO size, exclude farms less than €8,000 SO and then provide a new weighing factor
  - Would like opinions on the feasibility of this approach and also whether our incremental approach is the best method.
  - How far back can we go?

Year	Population Data Source	
2015	FSS 2013	
2014-2011	CoA 2010	Example No Dairy Farms
2010	CoA 2010 SO Methodology	15,654
2009	9/10 CoA 2000/2010	16655
2008	8/10 CoA 2000/2010	17656
2007	7/10 CoA 2000/2010	18657
2006	6/10 CoA 2000/2010	19658
2005	5/10 CoA 2000/2010	20659
2004	4/10 CoA 2000/2010	21660
2003	3/10 CoA 2000/2010	22661
2002	2/10 CoA 2000/2010	23662
2001	1/10 CoA 2000/2010	24663
2000	**CoA 2000 SO Methodology**	25,664
1999	???CoA 2000	
1998	???CoA 2000	
1997	???	
1996	???	
1995	???	

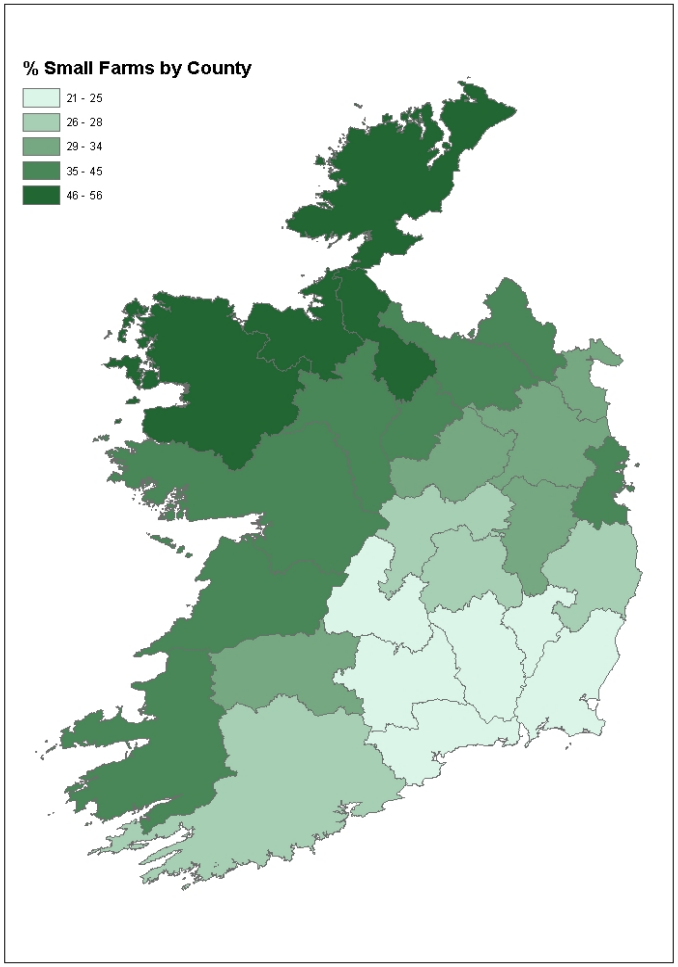
New weighting schema

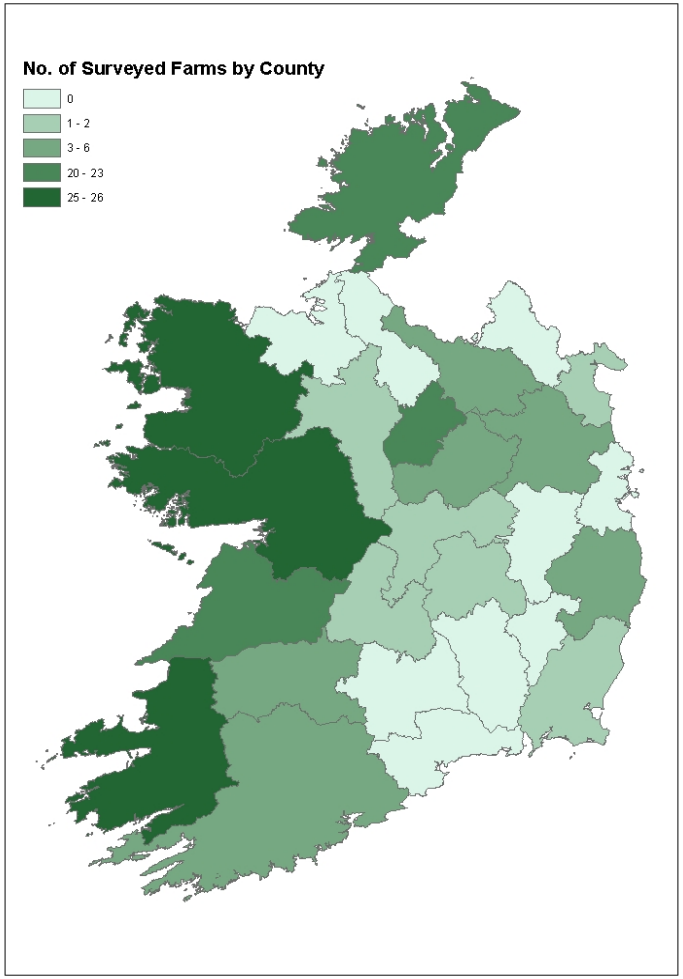
- We agree not to re-publish past annual reports. This is a research project and the data is to aid the research process.
- CSO are anxious to help as they use some of our data to compile National Accounts
- Project is ready to be rolled out but we felt it would useful to get this groups feedback. Obviously its niche area as regards knowledge.
- Example of where we plan to use it first. Fertiliser Use Survey. Fertiliser use over the period 2004 – 2015. Obviously a very important period in Irish agriculture, with decoupling, the nitrates review and milk quota removal.
- When comparing farms over time you need to compare like with like. In this case smaller more extensive farms could skew the results if included in early years and not later years.

Solution 2 – Small Farms Survey

- Opportunity presented itself as a work package on a Land Use Project
- Decided to survey 200 farms in smaller standard output size classes.
- With the help of CSO farms were picked at random but in clusters in parts of the country where smaller farms are more prevalent.
- Majority were cattle and sheep farms

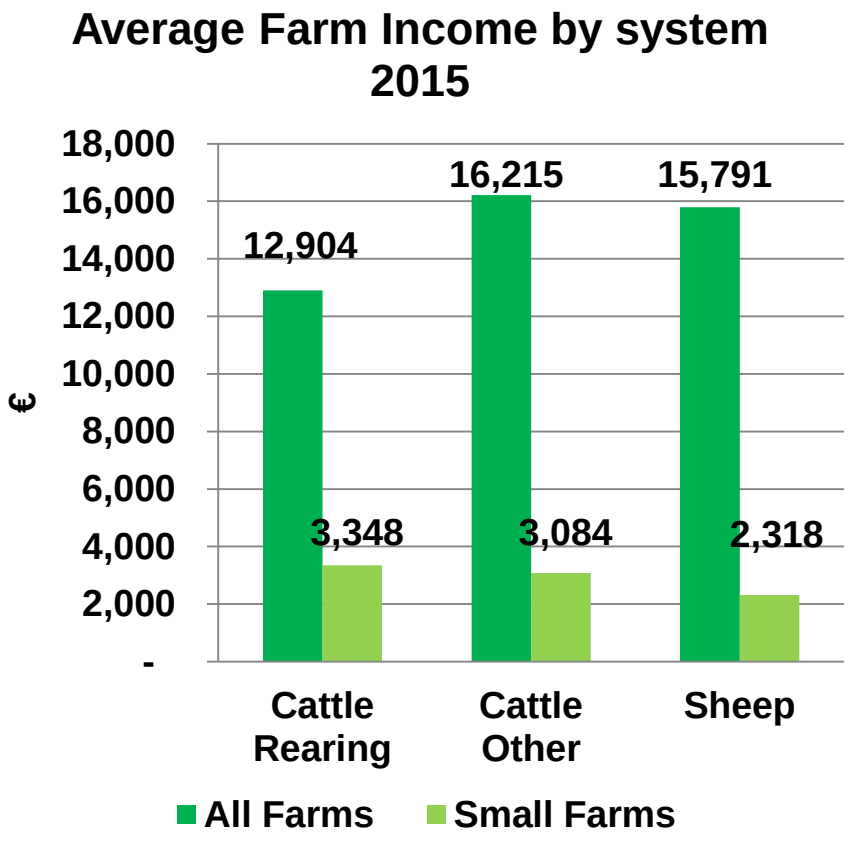
Small Farm Locations





Family Farm Income

Table 2: Average Family Farm Income 2015		
	Large Farms	Small Farms
Gross Output	46,235	11,351
(of which direct pay'ts)	15,217	5,474
Total Costs	31,265	8,434
(of which direct costs)	15,112	3,304
(of which overheads)	16,153	5,131
Family Farm Income	14,970	2,917



Farm Size

Table 3: Average Farm Size and Income per hectare 2015				
	Large Farms		Small Farms	
	Size (ha)	Income	Size (ha)	Income
Cattle Rearing	36	361	16	216
Cattle Other	38	427	14	225
Sheep	50	317	13	175

	2015 Large Farms		2015 Small Farms	
	Direct Payments	Contribution to Income	Direct Payments	Contribution to Income
	€	%	€	%
Cattle Rearing	13,158	1.02	5,796	1.73
Cattle Other	15,478	0.95	5,543	1.80
Sheep	17,016	1.08	5,082	2.19

Income Distribution

Fig. 5a: Income distribution – Large farms

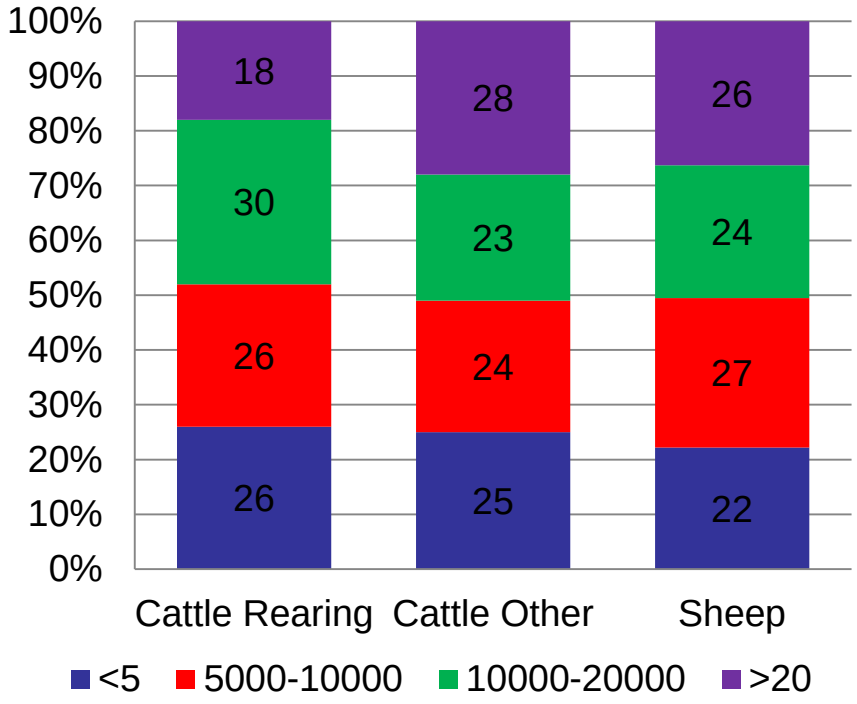
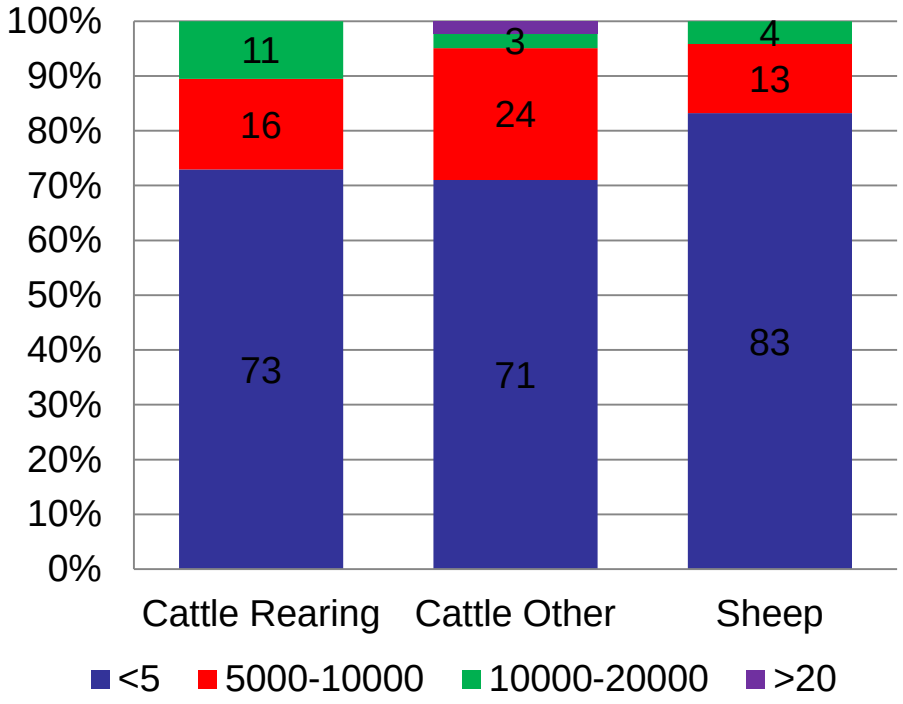


Fig. 5b: Income distribution - Small farms

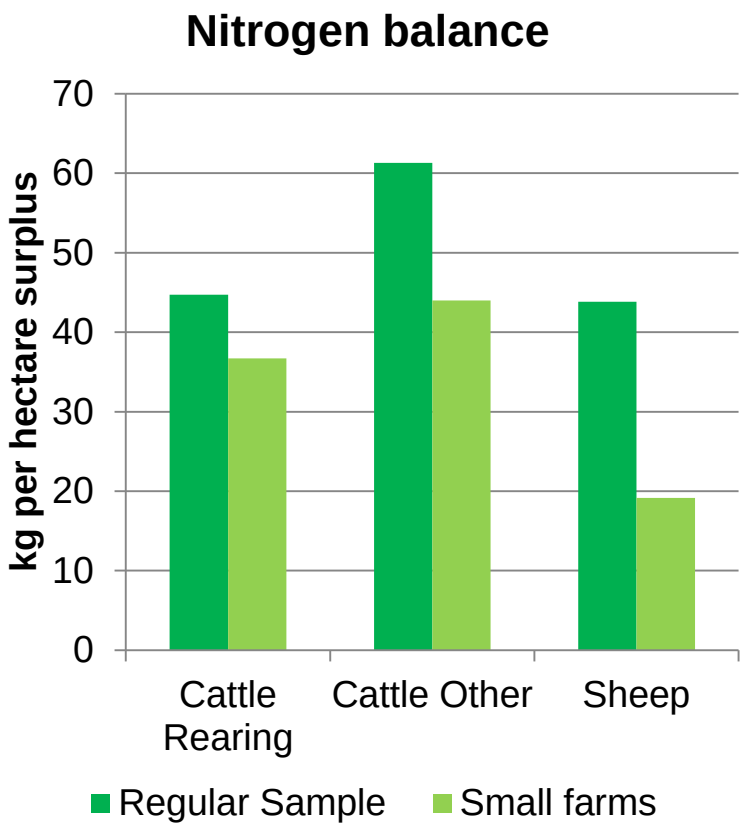


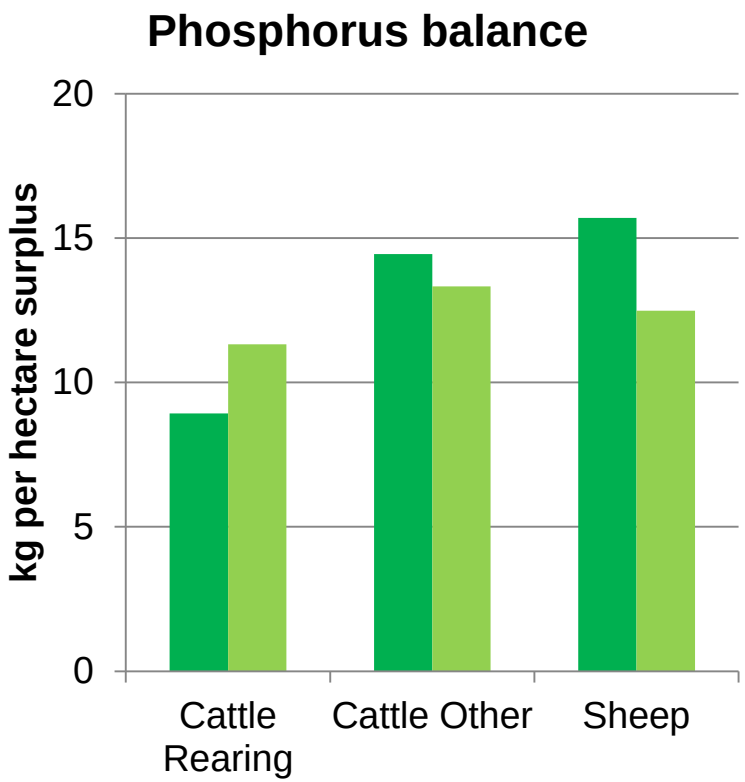
Demographic Details

	Large farms			Small farms		
	Cattle rearing	Cattle other	Sheep	Cattle rearing	Cattle other	Sheep
Farmer Age	54.8	55.3	56.6	56.3	59.2	60.7
Married	70.6	64.2	80.9	51.4	62.2	66.9
Single	21.2	28.9	14.3	34.0	23.4	24.5
Widowed	3.4	3.3	1.6	7.5	6.5	8.6
Household Size	2.8	2.6	2.9	2.4	2.3	2.4
HH with members <24	32.2	35.1	39.4	10.5	12.2	13.3
HH with members <24-44	32.7	26.0	24.1	10.4	9.6	8.7

Income sources	Large farms			Small farms		
%	Cattle rearing	Cattle other	Sheep	Cattle rearing	Cattle other	Sheep
Off-Farm Job HH	55.1	48.2	49.4	40.1	51.9	40.5
Off-Farm Job farmer	36.5	38.5	33.5	38.1	38.0	38.2
Off-Farm Job Spouse	39.6	23.9	31.3	12.6	36.5	13.8
Pensions	26.8	28.0	26.5	40.3	37.2	39.5
Unemployment HH	13.0	8.0	13.0	17.7	19.9	23.9

Nutrient Balances





Agricultural Greenhouse Gas Emissions per Hectare