



The European Agricultural Fund for Rural Development:
Europe investing in rural areas



Annual implementation report

Ireland - Rural Development Programme (National)

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1. KEY INFORMATION ON IMPLEMENTATION OF THE PROGRAMME AND ITS PRIORITIES

1.a) Financial Data

See annexed documents

1.b) Common and programme-specific indicators and quantified target values

1.b1) Overview table

Focus Area 1A						
Target indicator name	Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
T1: percentage of expenditure under Articles 14, 15 and 35 of Regulation (EU) No 1305/2013 in relation to the total expenditure for the RDP (focus area 1A)	2014-2016			0.24	6.68	3.60
	2014-2015					

Focus Area 1B						
Target indicator name	Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
T2: Total number of cooperation operations supported under the cooperation measure (Article 35 of Regulation (EU) No 1305/2013) (groups, networks/clusters, pilot projects...) (focus area 1B)	2014-2016			328.00	27.11	1,210.00
	2014-2015			86.00	7.11	

Focus Area 1C						
Target indicator name	Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
T3: Total number of participants trained under Article 14 of Regulation (EU) No 1305/2013 (focus area 1C)	2014-2016			24,730.00	22.16	111,600.00
	2014-2015			549.00	0.49	

Focus Area 2A							
Target indicator name		Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
T4: percentage of agricultural holdings with RDP support for investments in restructuring or modernisation (focus area 2A)		2014-2016	0.57	6.25	0.57	6.25	9.11
		2014-2015	0.37	4.06	0.37	4.06	
Measure	Output Indicator	Period	Committed	Uptake (%)	Realised	Uptake (%)	Planned 2023
M01	O1 - Total public expenditure	2014-2016	6,000,000.00	24.00			25,000,000.00
M02	O1 - Total public expenditure	2014-2016	28,000.00	5.60			500,000.00
M04	O1 - Total public expenditure	2014-2016	39,486,000.00	27.81	9,111,683.06	6.42	142,000,000.00
M16	O1 - Total public expenditure	2014-2016	104,000.00	5.94	103,608.42	5.92	1,750,000.00
Total	O1 - Total public expenditure	2014-2016	45,618,000.00	26.95	9,215,291.48	5.44	169,250,000.00

Focus Area 2B							
Target indicator name		Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
T5: percentage of agricultural holdings with RDP supported business development plan/investments for young farmers (focus area 2B)		2014-2016	0.04	1.40	0.04	1.40	2.86
		2014-2015					
Measure	Output Indicator	Period	Committed	Uptake (%)	Realised	Uptake (%)	Planned 2023
M04	O1 - Total public expenditure	2014-2016	45,377,000.00	37.81	1,504,173.43	1.25	120,000,000.00
M16	O1 - Total public expenditure	2014-2016	311,000.00	13.82	310,825.27	13.81	2,250,000.00
Total	O1 - Total public expenditure	2014-2016	45,688,000.00	37.37	1,814,998.70	1.48	122,250,000.00

Focus Area 3B							
Target indicator name		Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
Number of Participants in Knowledge Transfer Groups (focus area 3B) (Persons)		2014-2016					26,600.00
		2014-2015					
Measure	Output Indicator	Period	Committed	Uptake (%)	Realised	Uptake (%)	Planned 2023
M01	O1 - Total public expenditure	2014-2016	6,000,000.00	24.00			25,000,000.00
M02	O1 - Total public expenditure	2014-2016	305,400.00	5.09	301,481.08	5.02	6,000,000.00
M04	O1 - Total public expenditure	2014-2016	4,710,000.00	18.84	4,287,287.60	17.15	25,000,000.00
Total	O1 - Total public expenditure	2014-2016	11,015,400.00	19.67	4,588,768.68	8.19	56,000,000.00

Priority P4							
Target indicator name		Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
T12: percentage of agricultural land under management contracts to improve soil management and/or prevent soil erosion (focus area 4C)		2014-2016			12.86	71.15	18.08
		2014-2015			5.96	32.97	
T10: percentage of agricultural land under management contracts to improve water management (focus area 4B)		2014-2016			12.86	61.50	20.91
		2014-2015			5.96	28.50	
T9: percentage of agricultural land under management contracts supporting biodiversity and/or landscapes (focus area 4A)		2014-2016			12.86	61.92	20.77
		2014-2015			5.96	28.70	
Measure	Output Indicator	Period	Committed	Uptake (%)	Realised	Uptake (%)	Planned 2023
M01	O1 - Total public expenditure	2014-2016	6,001,000.00	16.22	59,030.55	0.16	37,000,000.00
M02	O1 - Total public expenditure	2014-2016	59,000.00	5.90			1,000,000.00
M04	O1 - Total public expenditure	2014-2016	7,374,000.00	6.47	14,067,302.07	12.34	114,000,000.00
M07	O1 - Total public expenditure	2014-2016	775,000.00	12.92	725,488.27	12.09	6,000,000.00
M10	O1 - Total public expenditure	2014-2016	159,500,000.00	13.14	397,415,543.39	32.74	1,213,750,630.00
M11	O1 - Total public expenditure	2014-2016	8,155,000.00	14.56	5,843,994.97	10.44	56,000,000.00
M12	O1 - Total public expenditure	2014-2016	18,835,000.00	25.71	41,681,709.17	56.90	73,250,000.00
M13	O1 - Total public expenditure	2014-2016	400,854,000.00	29.26	608,708,139.17	44.43	1,370,000,000.00
M16	O1 - Total public expenditure	2014-2016	0.00	0.00			2,000,000.00
Total	O1 - Total public expenditure	2014-2016	601,553,000.00	20.94	1,068,501,207.59	37.19	2,873,000,630.00

Focus Area 5B							
Target indicator name		Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
T15: Total investment for energy efficiency (€) (focus area 5B)		2014-2016	30,260.60	0.06	30,260.60	0.06	50,000,000.00
		2014-2015					
Measure	Output Indicator	Period	Committed	Uptake (%)	Realised	Uptake (%)	Planned 2023
M04	O1 - Total public expenditure	2014-2016	1,008,000.00	5.04	12,104.24	0.06	20,000,000.00
Total	O1 - Total public expenditure	2014-2016	1,008,000.00	5.04	12,104.24	0.06	20,000,000.00

Focus Area 5D							
Target indicator name		Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
T18: percentage of agricultural land under management contracts targeting reduction of GHG and/or ammonia emissions (focus area 5D)		2014-2016			7.87	72.95	10.79
		2014-2015			4.73	43.84	
T17: percentage of LU concerned by investments in live-stock management in view of reducing GHG and/or ammonia emissions (focus area 5D)		2014-2016			0.08	40.26	0.20
		2014-2015					
Measure	Output Indicator	Period	Committed	Uptake (%)	Realised	Uptake (%)	Planned 2023
M01	O1 - Total public expenditure	2014-2016	14,895,000.00	38.09	8,471,401.00	21.67	39,100,000.00
M02	O1 - Total public expenditure	2014-2016	28,000.00	5.60			500,000.00
M04	O1 - Total public expenditure	2014-2016	6,041,000.00	151.03	494,256.08	12.36	4,000,000.00
M10	O1 - Total public expenditure	2014-2016	99,615,050.00	33.25	80,633,516.77	26.91	299,600,000.00
M16	O1 - Total public expenditure	2014-2016	0.00	0.00			1,000,000.00
Total	O1 - Total public expenditure	2014-2016	120,579,050.00	35.03	89,599,173.85	26.03	344,200,000.00

Focus Area 5E							
Target indicator name		Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
T19: percentage of agricultural and forest land under management contracts contributing to carbon sequestration and conservation (focus area 5E)		2014-2016			0.05	15.72	0.32
		2014-2015					
Measure	Output Indicator	Period	Committed	Uptake (%)	Realised	Uptake (%)	Planned 2023
M10	O1 - Total public expenditure	2014-2016	8,600,000.00	11.50	8,590,536.94	11.48	74,800,000.00
Total	O1 - Total public expenditure	2014-2016	8,600,000.00	11.50	8,590,536.94	11.48	74,800,000.00

Focus Area 6B							
Target indicator name		Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
T23: Jobs created in supported projects (Leader) (focus area 6B)		2014-2016					3,100.00
		2014-2015					
T22: percentage of rural population benefiting from improved services/infrastructures (focus area 6B)		2014-2016					0.00
		2014-2015					
T21: percentage of rural population covered by local development strategies (focus area 6B)		2014-2016			62.12	94.50	65.74
		2014-2015					
Measure	Output Indicator	Period	Committed	Uptake (%)	Realised	Uptake (%)	Planned 2023
M19	O1 - Total public expenditure	2014-2016	160,037,000.00	64.01	1,971,040.83	0.79	250,000,000.00
Total	O1 - Total public expenditure	2014-2016	160,037,000.00	64.01	1,971,040.83	0.79	250,000,000.00

1.c) Key information on RDP implementation based on data from a) and b) by Focus Area

Measure 1 - Knowledge Transfer and Information Action

This measure consists of:

- Sub-measure 1.1 – support for vocational training and skills acquisition actions – **Knowledge Transfer (KT) Groups**; and
- Sub-measure 1.1 – support for vocational training and skills acquisition actions - **training delivered in support of Measure 10 (GLAS and Beef Data and Genomics Programme (BDGP))**.

A total of €8.5m was paid for the training of over 24,000 BDGP participants in 2016. In addition, approximately €59,000 was paid in 2015 in respect of training for 549 REPS4 participants to cover an outstanding liability for the previous programming period. GLAS training will commence in late 2017.

Knowledge transfer discussion groups for beef, sheep, dairy, equine, poultry and tillage sectors.

This measure involves farmer meetings facilitated by qualified agricultural advisors for the purpose of sharing information and exchanging best practice across a range of areas. Approximately 20,000 participants in 1,193 Knowledge Transfer (KT) groups have been registered by associated group facilitators. The majority of approved KT groups are currently holding meetings and carrying out their Farm Improvement Plans. The closing date for holding meetings and submitting these plans is 31 July 2017, after which first payments for KT groups are expected to issue in the following quarter.

Training for participants in the Beef Data and Genomics Programme (BDGP)

This training is provided to approved beneficiaries in the BDGP which is programmed under Measure 10 of Ireland's RDP. It aims to optimise the effectiveness of the BDGP and while the intervention logic and contribution to focus areas are integrated with Measure 10, funding for this training is allocated under Measure 1.

There are two elements to BDGP training. For the general training element, participating farmers are required to attend an approved course which provides clear information on scheme requirements at individual farm level and increases participants' knowledge of genomics and breeding selection.

The second element of BDGP training consists of a 2-hour preparatory training course on the carbon navigator. This is an online tool which estimates potential greenhouse gas reductions and financial savings that can be made on each holding through enhanced farm efficiency (e.g. increasing the length of the grazing season lowers a farm's carbon footprint). It also allows individual farmers to set and update targets and make comparisons with average and best performing farmers.

Following an open competitive tender process run by DAFM, the general training contract was awarded to Teagasc. Carbon Navigator training was delivered in a one-on-one setting by approved advisors. All farmers who signed up to BDGP in 2016 were required to complete the training elements of the BDGP before 31 October 2016 and participants who did not complete these courses had penalties applied to their payments.

Measure 2 – Advisory Services

This measure consists of the following elements.

- Sub-measure 2.3 - **Continuous Professional Development (CPD) for Agricultural Advisors.**
- **Targeted Advisory Service on Animal Health and Welfare (TASAHW) incorporating**
 - Sub-measure 2.3 - Animal Health & Welfare - Training for advisors
 - Sub-measure 2.1 - Animal Health & Welfare - On farm advice
- Sub-measure 2.1 - **Support for setting up Producer Organisations**

Continuous Professional Development (CPD) for Agricultural Advisors

No expenditure was incurred in respect of CPD during the reporting period (i.e 2014 to 2016).

Targeted Animal Health and Welfare Training provides training to specialist advisors so that they can to deliver on-farm animal health and welfare advisory services.

The objective of the Targeted Advisory Service on Animal Health and Welfare (TASAHW) is to focus investment on countering a number of animal diseases in order to limit the animal health and financial costs associated with those diseases. It involves the specialist training of practitioners / veterinarians to enable them provide an on-farm animal health and welfare advisory service. The advice is provided to individual farmers on request and strategically targets certain livestock diseases such as Bovine Viral Diarrhoea (BVD), Johne's disease, Somatic Cell Count (SCC) and significant animal health issues in the pig sector. DAFM pays veterinary practitioners for up to three hours of advice per visit. Only veterinary practitioners who have undertaken TASAHW training for the relevant disease are eligible to provide the service. Since September 2015, Animal Health Ireland (AHI) is responsible for setting up and organising the provision of specialist advice to farmers.

BVD training events for private veterinary practitioners (PVPs) began in 2015. By the end of 2016, a total of 1,548 BVD herd investigations had been requested by farmers and 1,430 (92%) of these related to BVD positive animals identified in 2016. Almost 1,100 investigations were completed by trained PVPs in 2016 with the remaining investigations to be completed in 2017. All herds with persistently infected BVD calves born in 2017 are required to undergo an investigation delivered by an approved PVP within 3 months of the date of the first positive result

Beginning in the third quarter of 2016, 27 JD training events were held at 14 different locations with 346 PVPs attending. In addition, AHI trained 22 DAFM Veterinary Inspectors in connection with the scheme.

In 2016, over €288,000 was spent on 52 training courses for 769 veterinarians and on herd investigations for 1,088 farmers. Taking account of the training spend in 2015, the cumulative amount spent on training and advice to the end of last year was over €301,000 resulting in 886 PVPs receiving BVD and JD training and some 1,100 farmers being advised on disease control techniques.

Setting up of Producer Organisations (POs)

This measure, which will fund the provision of advice to beef POs, was introduced as part of the second

amendment to the RDP approved in January 2017 and no expenditure has been incurred to date.

Measure 4 – Investments in Physical Assets

Measure 4 consists of:

- TAMS II is programmed under sub-measure 4.1 – support for investments in agricultural holdings: and
- Various non-productive investments (submeasure 4.4), which are delivered nationally through the GLAS. The logic underlying this sub-measure is intrinsically linked to Measure 10 and funding is allocated under that measure.
- Non-productive investments under the Burren Programme (sub-measure 4.4) reimburses farmers for a proportion of the cost of enhancement works intended to improve their holdings' environmental dividend. Eligible non-productive investments include stone wall repair, scrub removal, habitat restoration, fencing of access tracks and water equipment.

Targeted Agricultural Modernisation Schemes (TAMS II) will make €395m available to Irish farmers for investment in infrastructure, facilities and equipment.

Seven strands of support are provided under TAMS II:

- Young Farmers Capital Investment Scheme;
- Dairy Equipment Scheme;
- Organic Capital Investment Scheme;
- Animal Welfare, Safety and Nutrient Storage Scheme;
- Low Emissions Slurry Spreading;
- Pig and Poultry Investment Scheme;
- Tillage Capital Investment Scheme.

No payments were made for TAMS II supports during the years 2014 and 2015. All Measure 4 spending related to the funding of ongoing commitments from the previous Programme. Total transitional expenditure of €19.4m to the end of 2015 is comprised of €7.6m in respect of 1,474 TAMS I operations (under Focus Areas 2A & 3B) plus €11.8m for 8,809 operations recorded as AEOS non-productive investments (under Priority 4).

Total TAMS expenditure in 2016 amounted to €7.81m, of which almost €4m related to current Programme commitments and €3.8m related to ongoing commitments from the previous RDP. The main expenditure items for TAMS II were:

- the Dairy Equipment Scheme (FA 2A) with a spend of €1.8m and 247 paid applicants; and
- the Young Farmer Capital Investment Scheme (FA 2B) with a spend of €1.5m and 59 paid applicants.

The main expenditure items for TAMS I were:

- the Dairy Equipment and Rainwater Scheme (FA 2A) with a spend of €1.3m to 120 paid applicants; and

- the Farm Safety Scheme (FA 3B) with a spend of €1.7m to 962 paid applicants.

Transitional expenditure of €2.3m was paid to almost 3,700 beneficiaries for AEOS non-productive investments in 2016 compared to €11.8m paid to over 8,800 beneficiaries in 2015.

With regard to TAMS II expenditure, it is expected that the level of payments for the remainder of 2017 will be much higher than in the first seven months particularly as larger construction projects are completed over the summer months. At present, there are over 9,500 investment approvals in place with over 1,800 claims received.

Measure 7 – Rural Services and Renewal

Sub-measure 7.6 – GLAS Traditional Farm Buildings

No expenditure was incurred in respect of this measure in the years 2014 and 2015. In 2016, over €725,000 was paid to support the restoration of 72 buildings / structures on 48 farms. When private funding is taken into account, the total amount invested in these operations was €1.05m.

This scheme provides a once-off grant aid for approved conservation work to traditional farm buildings and associated structures that are now used for agricultural purposes or available for such use. It builds upon the success of a previous Heritage Buildings Scheme and ensures that small traditional farm buildings and other structures are restored and conserved for practical agricultural use. As this is a complementary measure to GLAS, participation in GLAS is a primary eligibility condition for entry to the scheme.

The scheme is administered by the Heritage Council on behalf of DAFM. A first tranche of applications was opened in April 2016 and attracted over 500 applications. Further applications will be invited at regular intervals throughout the programming period ending in December 2020.

M10 – Agri-environment-climate

The main contributory schemes are programmed under sub-measure 10.1:

- The Green Low-Carbon Agri-Environment Schem (GLAS);
- The Beef Data and Genomics Programme (BDGP);
- The Burren Programme; and
- Rural Environment Protection Scheme (REPS) / Agri-Environment Options Schemes (AEOS)

2016	Focus Area	Public Expenditure (€m)	Total Area (ha)	No. of contracts
<u>Transtional</u>				
Organic Farming Scheme	P4	2.91	22,000	476
REPS / AEOS	P4	28.09	37,314	5,647

Non-transitional

Burren Programme	4A	0.23	3,524	58
GLAS	P4	100.9	614,358	53,178
BDGP	5D	50.80	334,830	23,185

Approximately 52,000 farmers are actively participating in the GLAS at present. Scheme payments totalled €101m on 53,178 ha in 2016 compared to €11.5m on 17,509 ha in 2015.

BDGP payments totalled €50.8m to over 23,000 beneficiaries in 2016 compared to €29m to almost 16,000 beneficiaries in 2015.

The Burren Programme provides for two types of intervention; the management of species-rich limestone grasslands and associated habitats and the reimbursement of a proportion of the cost of site enhancement works carried out by participating farmers. The scheme was activated in 2016 and payments amounting to over €228,000 were made to 58 farmers in respect of the first intervention. It is anticipated that payments for capital investments undertaken as part of the second intervention will commence later in 2017.

Transitional payments for REPS / AEOS totalled €28.1m for over 5,500 holdings in 2016 compared to an aggregate sum of €263.2m for over 49,000 holdings in 2014 and 2015.

Transitional payments for the OFS totalled €2.91m on almost 500 contracts in 2016 compared to an aggregate sum of €10.6m on over 1,700 contracts in 2014 and 2015.

Measure 11 – Organic Farming Scheme (OFS)

Measure 11 consists of:

- Sub-measure 11.1 – payment to convert to organic farming practices and methods; and
- Sub-measure 11.2 – payment to maintain organic farming practices and methods.

The general structure, administration and implementation of the previous OFS has been continued in the 2014-2020 RDP. Public expenditure of €4m was paid in respect of 50,000ha on 1,264 holdings in 2016. This compares to €1.84m paid on over 500 contracts in 2015.

Additionally, €2.91m in transitional money, incurred in support of 476 unexpired contracts relating to the previous period, is reported under Measure 10 in the current Programme. OFS was a stand-alone scheme under Measure 214 in the 2007-2013 Programme.

Measure 12 - Natura 2000 payments

Natura 2000 is an EU-wide network of protected areas designated as being of special value and importance for the endangered animals, plants and habitats that they contain. These sites comprise both Special Protection Areas (SPAs) for birds and Special Areas of Conservation (SACs) for habitats and species. Some sites can be both an SPA and an SAC.

The measure is programmed solely to provide for ongoing commitments from the 2007-2013 RDP as Natura sites are targeted under Measure 10 in the current RDP. The scheme supports farmers in dealing with the conservation of natural habitats and the effective management of those ecologically important sites. It thus contributes to the appropriate environmental management of farmed Natura sites in compliance with EU rules.

Total funding for this scheme in the current programming period has so far amounted to €41.68m. A sum of €4.4m was spent on supporting the management of over 67,000 ha on almost 2,900 holdings in 2016. In the preceding two years, €37.28m was expended on over 329,000 ha on almost 13,500 holdings.

Measure 13 – Areas facing natural constraint

This measure consists of the following two sub-measures:

- Sub-measure 13.2 – compensation payment for other areas facing significant natural constraints; and
- Sub-measure 13.3 – compensation payment to other areas affected by specific constraints (referring to island farming).

Support under these two sub-measures is disbursed nationally under a single Areas of Natural Constraint (ANC) Scheme based on the previous Less Favoured Areas and Disadvantaged Areas Schemes. Its objective is to compensate farmers for additional costs and income foregone arising from constraints on agricultural production in the areas concerned. A separate category of support is available to compensate island farmers in recognition of the specific constraints on agricultural activity in those areas.

Total public expenditure of €208m, including transitional monies of €0.26m, was paid to approximately 97,000 farmers in respect of 2.1m hectares under Measure 13 in 2016. This brings cumulative ANC payments in the current programming period to almost €609m.

EU legislation sets out new biophysical criteria based on a standardised methodology for the designation of eligible land under the ANC scheme and work is currently underway to delineate these areas in accordance with the new rules.

Measure 16 - Co-operation

Sub-measure 16.3: Collaborative Farming Scheme – all new farm partnerships are eligible to receive a contribution of up to 50% towards the legal, accounting and advisory costs involved in the setting up the partnership, subject to a maximum of €2,500.

In 2016, almost €335,000 was paid towards costs incurred in setting up of 242 farm partnerships. Additionally, almost €80,000 was paid to support the creation of 86 farm partnerships in 2015. Thus, a cumulative sum of over €0.4m was paid to support the creation of 328 registered partnerships under the first

three tranches of the scheme in the period to the end of 2016.

European Innovation Partnership projects - no expenditure reported for the years 2014 to 2016.

Measure 19 – LEADER

There are 4 sub-measures to LEADER:

19.1 - Preparatory support;

19.2 - Support for implementation of operations under the CLLD;

19.3 - Preparation and implementation of co-operation activities of the LAG;

19.4 - Support for running cost and animation

Total expenditure of €1.97m was incurred in respect of preparatory and administrative activities in the period 2014 to 2016; €1.13m was spent on supporting the preparation of local development strategies (LDS) and €0.84m on LDS running costs and animation. The corresponding figures for 2016 were €0.36m for preparatory activities and €0.84m for administration. No expenditure was paid to support the implementation of operations as it must be preceded by the selection of local action groups (LAGs) and the design of their strategies for which they have a minimum of 6 months. LAGs have now been selected in all 28 sub-regional areas and funding agreements signed with all groups. The LAG selected for the Galway sub-region did not cover the entire area, so a second LAG was approved in 2017 for the remainder of that area bringing the total number of LAGs to 29.

Measure 20 - Technical Assistance

Payments of approximately €65,000 (excluding VAT) were made from the Technical Assistance budget in 2015. The two main expenditure items were €20,000 for setting up a database for the Animal Health and Welfare Advisory Service under Measure 2 of the RDP and €41,000 for the preparation of reports on the RDP ex-ante assessment and Strategic Environmental Assessment.

Cumulative payments of almost €865,000 (excluding VAT) were made from the Technical Assistance budget in the period 2014 to 2016. This sum consists of approximately €65,000 paid in 2015 and €800,000 paid in 2016. The main expenditure items in 2016 were related to the operation of the National Rural Network, the administration of the Burren Programme, a GLAS evaluation contract and a contribution towards the costs of administering a database for the TASAHW scheme (which is included in the cumulative figure for administration costs in Table B2.3).

Measure 113 – Early Retirement Scheme

A sum of €4.25m was paid to 403 scheme beneficiaries in 2016. No transitional funding was paid on this scheme during the years 2014 and 2015.

Financial Instruments (FIs)

FIs were not a feature of the Irish RDP during the reporting period. An ex-ante assessment on the use of FIs was completed on 30 June 2017 and was submitted to the Commission in early July. The next step will involve a stakeholder consultation process, details of which have yet to be finalised.

1.d) Key information on achievements towards the milestones set in the performance Framework based on Table F

Table F1 sets out performance indicators for Priorities 2 to 6 comparing the position at the end of 2016 with the 2018 milestone and 2023 target value. The indicators measure Programme achievements in relation to expenditure per priority, numbers of supported holdings / operations for certain FAs, land areas under environmental contracts and the population covered by LAGs.

Priority 2 (P2)

A low level of expenditure (4%) under P2 reflects the fact that no payments were made in respect of KT Groups (Measure 1) or EIP Operational Groups (Measure 16) during the reporting period. TAMS II (Measure 4) expenditure at end of 2016 amounted to €3.96m compared to €12.54m for the first seven months of 2017. TAMS II spending is expected to accelerate further as supported capital works are completed over the summer months.

A total of 854 holdings or 5% of the 2023 target received support for capital investments under FAs 2A and 2B.

The following TAMS 2 schemes are programmed under the relevant FAs: Animal Welfare and Nutrient Storage, Dairy Equipment, Organic and Young Farmer Capital Investments.

Owing to the nature of the approval and payment system for TAMS II investments, there can be a substantial interval between the date of approval and the date of payment as applicants have 3 years from their approval date to complete their investment. This has led to very low levels of completed investments with expenditure and beneficiary numbers well below their target values. Some 13,500 applications were received in Tranches 1 to 7 from 2015 to date in 2017. Approvals are issuing on an ongoing basis and over 9,500 applications have now been approved.

DAFM has taken steps to address the uncertainty and unpredictability of expenditure under the scheme by shortening the window during which those applicants who received approvals from Tranche 6 (opened in January 2017) onwards can claim payment having received approval. In future, all approvals issued will expire within one year where the approval relates to building work being carried out and six months where

only equipment is required. These changes will bring greater certainty to the draw down of funding but the issue of legacy commitments remains. Nevertheless, the new approval regime should stimulate increased investment uptake and scheme expenditure.

Priority 3 (P3)

The same combination of measures that contribute to overall expenditure under P2 also determine the total spend under P3. Thus, the low level of P3 expenditure (8%) is attributable to the same factors mentioned above in relation to the P2 spend. Again, expenditure for Measure 1, 4 and 16 schemes are expected to increase substantially in 2017 and 2018 relative to 2015 and 2016. It should be noted that some measures contributing to P3 expenditure - such as support for setting up Producer Organisations, General EIP Operational Groups and especially the Sheep Welfare Scheme, all of which are programmed under FA 3A - were only activated with the formal adoption of the second Programme amendment in January 2017. Spending on the Sheep Welfare Scheme, with an overall budget of €100m, should ensure that the 2018 expenditure milestone is met.

There are no performance milestones or targets for FAs 3A and 3B in the Irish RDP.

Priority 4 (P4)

Total P4 expenditure, which stands at 37% of the 2023 target, is impacted by a combination of all measures except Measure 14 (the Sheep Welfare Scheme) and Measure 19 (LEADER). In addition to ongoing scheme commitments, new or increased expenditure under Measures 2 and 16 and especially Measure 1 will further boost the overall P4 spend in the coming years. Having regard to the broad range of contributory measures and the high achievement rate relative to the 2018 milestone of 56%, P4 expenditure is forecast to meet or exceed expectations.

Since it is anticipated that the maximum area supported under different types of GLAS management contracts will be achieved by the end of 2018, the realised uptake of 54% at the end of 2016 represents satisfactory progress towards the achievement of this indicator value.

Priority 5 (P5)

The contributory measures to total expenditure under P5, which currently stands at 22% of the 2023 target figure, are 1, 2, 4, 10 and 16. P5 expenditure should grow more rapidly in future years as a result of new spending in respect of KT Groups, locally-led EIP projects and CPD together with a higher uptake on relevant TAMS II schemes. Past experience of capital investment schemes has shown that there can be initial delays before they are operating at full capacity. For that reason, it may be better to reserve judgment on the low uptake for investment operations in energy saving and efficiency. However, the success of the BDGP and GLAS in attracting and retaining participants is evidenced by the realised value of 71% for the area of agricultural land under management contracts targeting reduction in GHG / ammonia emissions and fostering carbon conservation / sequestration.

Priority 6 (P6)

The level of public expenditure for P6 is a function of the LEADER spend which is predicted to grow substantially in 2017 and subsequent years.

Analysis of the expenditure pattern under the previous Programme found that expenditure grew annually from a low base and it is anticipated that a similar pattern will prevail for this Programme given the

requirements regarding the formation of Local Action Groups (LAGs) and the formulation of their strategies.

LAGs, which are responsible for measure implementation locally, have been selected in all 28 sub-regional areas and funding agreements signed with all groups. Cumulative administration and animation costs incurred by LAGS up to late July 2017 amounted to €6.3m.

More significantly, 270 projects with a value of over €6.4m have been approved for LEADER funding by the LAGs to date. Funding offers have been issued to 141 project promoters and it is expected that the remaining projects in the pipeline will receive funding offers in 2017 once any outstanding issues are resolved.

Following the selection of the final LAG in 2017, the population target of 2.47m rural dwellers that can potentially avail of LEADER funding has been achieved.

Alternative Performance Framework Indicators

The first payments for KT Groups and LEADER projects will be made in 2017. The total area supported under P4 for GLAS and ANC in 2016 amounted to 2.69m ha or 58% of the 4.66m ha target for 2023.

1.e) Other RDP specific element [optional]

Nothing to report under this heading.

1.f) Where appropriate, the contribution to macro-regional and sea basin strategies

As stipulated by the Regulation (EU) No 1303/2013, article 27(3) on the "content of programmes", article 96(3)(e) on the "content, adoption and amendment of operational programmes under the Investment for growth and jobs goal", article 111(3), article 111(4)(d) on "implementation reports for the Investment for growth and jobs goal", and Annex 1, section 7.3 on "contribution of mainstream programmes to macro-regional and sea-basin strategies, this programme contributes to MRS(s) and/or SBS:

- EU Strategy for the Baltic Sea Region (EUSBSR)
- EU Strategy for the Danube Region (EUSDR)
- EU Strategy for the Adriatic and Ionian Region (EUSAIR)
- EU Strategy for the Alpine Region (EUSALP)
- Atlantic Sea Basin Strategy (ATLSBS)

1.g) Currency rate used for conversion AIR (non EUR countries)

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2. THE PROGRESS IN IMPLEMENTING THE EVALUATION PLAN.

2.a) Description of any modifications made to the evaluation plan in the RDP during the year, with their justification

No substantive changes were made to the evaluation plan as set out in chapter 9 of the RDP during the reporting period.

A second meeting of the RDP Monitoring Committee attended by 53 stakeholders was convened on 7 September 2016 at the State Laboratory complex in Co. Kildare. The topics discussed were:

- Programme implementation, which included an update on each scheme, approval of the first amendment and progress on evaluations;
- the selection process for scheme participants focusing on scoring matrices for applicant ranking and selection;
- the second Programme amendment consisting of changes to measures 2, 4, 10 and 16;
- a presentation on the work of the NRN, specifically its objectives and action plan, by one of the consortium members

A third meeting of the Monitoring Committee is scheduled for the first half of September 2017.

2.b) A description of the evaluation activities undertaken during the year (in relation to section 3 of the evaluation plan)

As the Managing Authority (MA) for the RDP, DAFM is committed to a number of specific initiatives as part of the Programme evaluation process including an evaluation of GLAS, the BDGP and LEADER case studies.

Following a public procurement competition, RSK-ADAS Ltd (formerly ADAS UK Ltd) was commissioned in September 2015 to undertake an environmental assessment of GLAS. This assessment will complement the mandatory indicator reporting requirements for the RDP and assist the Managing Authority in identifying any future scheme improvements necessary to achieve policy aims.

The GLAS evaluation contract is comprised of three distinct components:

1. A detailed literature review of existing research on Irish agri-environment measures;
2. A longitudinal field-based assessment of scheme actions including an attitudinal survey of sampled participants; and
3. A post-implementation, desk-based evaluation of the scheme to provide recommendations relevant to the drafting of any new agri-environment measure for the next programme period.

The first phase of the evaluation project – the literature review – was published in June 2016. It sought to capture and synthesise work on agri-environment measures in Ireland produced since 2010. Focused mainly on REPS and AEOS, it also examined other agri-environment measures, as well as other relevant research projects or national reports on biodiversity, climate and water quality. The review highlighted important points for the overall GLAS evaluation, in particular the need for a

national scale long-term evaluation using a consistent methodology. The published report can be accessed at: <http://www.agriculture.gov.ie/ruralenvironment/ruraldevelopmentprogrammerdp2014-2020/>

Having regard to the broad methodological issues discussed in the literature review, the second phase of the GLAS evaluation consists of a modelling exercise and detailed longitudinal (five-year) study of scheme actions at national level. The modelling exercise is designed to evaluate GLAS actions on climate change and water quality while the contribution of GLAS actions to biodiversity objectives is being assessed by a field survey of a random sample of GLAS participants repeated three times over the duration of the scheme. Individual reports summarising and detailing the results of the three field assessments will be published once each fieldwork campaign is completed. A preliminary study modelling the effect of GLAS on nutrient (nitrate and phosphorus) and sediment losses in runoff to rivers and lakes and the emission of climate change gases (nitrous oxide and methane) was submitted by contractor in June 2017. The findings of that report are elaborated in Section 7 of this document.

For the third phase of the project, the contractor will provide in 2019 a post-implementation report that will evaluate the structure, composition and effectiveness of the GLAS in meeting scheme objectives.

The BDGP was initially selected for a Focused Policy Assessment as part of the 2015-17 cycle of DAFM's evaluative activities. It is provisionally scheduled for 2017, year three of the intervention, as foreseen in the RDP evaluation plan. Any evaluation will be conducted independently of the MA.

DAFM's evaluation programme also includes a Value for Money review of an RDP scheme. No final decision has yet been made on topic selection because it was too early to identify one when the programme was being compiled. The area to be examined will be one with substantial activity and expenditure and the choice of topic will be determined by the RDP Monitoring and Evaluation Steering Group in due course.

In relation to LEADER, as indicated earlier in Section 1(c), no payments for LAG projects were made during the period 2014-2016. It is, therefore, too early in the programme cycle to undertake any evaluations of LEADER interventions. Arrangements for LEADER evaluation will be discussed as part of ongoing collaboration in Programme implementation between the MA, the delegated Paying Agency (PA) and the National Rural Network (NRN).

2.c) A description of activities undertaken in relation to the provision and management of data (in relation to section 4 of the evaluation plan)

An IT Executive Project Board meets regularly to co-ordinate and determine work priorities in relation to the various RDP schemes. Comprised of RDP implementing divisions as well as Information and Management Technology (IMT) Division, its task is to oversee the development, implementation and maintenance of information management systems to support the operation of RDP schemes. This forum also facilitates communication between business users and IMT while providing a useful mechanism for dealing with interconnectivity issues across the many Programme schemes. Work on required IT functionality is

ongoing and progressing well.

Implementing divisions are aware of the data requirements for scheme monitoring and evaluation including the need for effective communication and linkages in some instances with external bodies such as the Irish Cattle Breeding Federation, Animal Health Ireland and the Heritage Council for relevant measures. A common text is included in the terms and conditions of each scheme advising that information provided by participants can be used by DAFM or other bodies for evaluation purposes. This explicit consent has been used to exchange data with Teagasc and ADAS using secure transfer protocols. The data provided to Teagasc relates to beneficiaries of Pillar 2 schemes participating in the National Farm Survey and the data to ADAS is used in connection with the GLAS evaluation contract.

A capacity building event on preparing for the enhanced 2017 AIR was held at DAFM HQ in Dublin on 18 January 2017. Organised by the Managing Authority, this training module was attended by representatives of all implementing divisions in the department and was given by an Evaluation Helpdesk team led by Mr Bill Slee, the Geographic Expert for Ireland. The twofold objective of the event was to clarify information requirements for the 2017 AIR and discuss data issues relating to answering the common evaluation questions (see Section 7 on assessment of progress towards achieving Programme objectives).. By sharing ideas and information in this way, the training highlighted for implementing divisions the distinction between data collection for evaluation and for monitoring purposes.

From a Managing Authority perspective, it was particularly useful exercise to illustrate to internal stakeholders the connectivity between scheme Focus Areas, intervention logic, evaluation questions (CEQs) and the judgment criteria. The quantification of programme achievements through the assessment of result indicators and CEQs is central to the evaluation effort in 2017. However, it was agreed that it can be challenging to establish a definitive causal effect for each intervention. Given the difficulties in establishing the impact of interventions, at this early stage of implementation, measuring results rather than impacts was considered a much more realistic ambition for the AIR submitted in 2017. The possibility of holding a separate LEADER training module later in 2017 for the delegated PA and LAGs is currently being explored with the HelpDesk.

2.d) A list of completed evaluations, including references to where they have been published on-line

Publisher/Editor	DAFM
Author(s)	Indecon International Economic Consultants
Title	Ex-Post Evaluation of the Rural Development Programme Ireland (2007-2013)
Abstract	The overall objective of the ex-post evaluation was to achieve a holistic, strategic and robust evaluation of the Irish RDP for the period 2007-2013. The Programme was implemented during an economic crisis which had a substantial impact on Programme measures, and on the nature and scale of the challenges the RDP was intended to address. A number of recommendations based on the findings of the ex-post evaluation were formulated with the aim of informing the design of future policy to support agriculture and rural communities.
URL	https://www.agriculture.gov.ie/ruralenvironment/ruraldevelopmentprogrammerdp2014-2020/ruraldevelopmentprogramme2007-2013/

Publisher/Editor	DAFM
Author(s)	Michael Image
Title	Evaluation of the GLAS Phase 1 - Literature Review (Final)
Abstract	This study investigated the post-2010 literature on REPS and AEOS to establish if there were any changes to the conclusions reached in the previous REPS Review and Mid-Term RDP Evaluation. It also sought to assess the extent to which the issues raised in those reviews had been addressed. The implications of the literature review for the evaluation of GLAS itself and the design of future Irish agri-environment schemes was also examined. The study considered research carried out on schemes (such as the Burren Farming for Conservation Programme) that have been or could be incorporated into the design of measures included in the RDP 2014-2020. Relevant work from the Agricultural Catchments Programme and from agri-environment measure studies outside Ireland were also considered. The literature review highlighted important points for the overall GLAS evaluation, in particular the need for a national scale long-term evaluation using a consistent methodology.
URL	https://www.agriculture.gov.ie/ruralenvironment/ruraldevelopmentprogrammerdp2014-2020/

Publisher/Editor	DAFM
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Author(s)	Brian A. Kennedy
Title	The 2017 Evaluation on the the implementation of Ireland's Rural Development Programme 2014-2020
Abstract	The 2017 Evaluation on the Implementation of Ireland's RDP addresses the evaluation requirements for the 2017 Annual Implementation Report of 2014-2020 Rural Development Programme and assesses programme achievements through the quantification of indicators and the answering of Common Evaluation Questions. A range of advanced and rigorous methods were used to empirically evaluate the implementation of measures and schemes under the Programme.
URL	https://www.agriculture.gov.ie/ruralenvironment/ruraldevelopmentprogrammerdp2014-2020/

2.e) A summary of completed evaluations, focussing on evaluation findings

GLAS Evaluation Contract

The findings of preliminary reports on GLAS baseline fieldwork and modelling are discussed in greater detail in Section 7 of this report.

Conclusions of the GLAS Literature Review

The GLAS literature review investigated the post-2010 literature on REPS and AEOS to establish if there has been any change to the conclusions of the previous REPS Review and Mid-Term RDP Evaluation. It sought to assess to what extent the issues raised in these reviews had been addressed. The implications of the literature for the evaluation of GLAS itself and the design of future agri-environment schemes in Ireland were also assessed. The study also considered research carried out on other agri-environment schemes that have been or could be incorporated into the design of measures included in the RDP 2014-2020. Relevant work from the Agricultural Catchments Programme (ACP) and from agri-environment measure studies outside Ireland were also considered.

Relatively little is known about AEOS explicitly, probably because it was relatively small and short-lived. REPS was more extensively evaluated with evidence suggesting a positive impact on water quality and GHG abatement, as well as improved awareness of environmental issues within the farming community. Knowledge of climate adaptation effects of REPS and AEOS is lacking. New information is available about the GHG abatement of certain measures and the long-term impact of nutrient management prescriptions in REPS, but is not sufficient to establish a national perspective on either. The evidence for a positive effect of REPS on biodiversity is less strong, though it may have still played an important role. REPS measures were successful at generating a large quantity of features such as field margin and hedgerow, or getting large areas of habitat under management but would have benefitted from more focus on the quality of what was created and managed, as well as more appropriate selection of biodiversity options by farmers. As such, REPS appears to improve functional indicators of biodiversity, such as invertebrate and below-ground species richness rather than higher level ones like vegetation species richness or bird abundance.

The approach taken in the Burren and the Farm Plan Scheme (FPS) to deal with the unique issues of SAC and SPA management has been more extensively studied, and has generally led to positive outcomes for these features. There appears to be value in providing farmers with difficult management challenges a vision for the desired result and allowing them flexibility in how they approach their task. The applicability of this method to wider biodiversity still needs to be established, but initiatives such as the other LIFE projects and RBAPS could certainly help inform future agri-environment scheme design. The approach applied in the Burren has also been shown to be cost effective, though this has only been evaluated at a local scale. Adapting a results-driven approach to water quality will be more challenging as more factors are outside the farmer's direct control. However, the knowledge from the ACP research, COSAINT and other projects will help devise more precise and cost-effective measures.

The literature review has also highlighted important points for the overall GLAS evaluation, in particular the need for a national scale long-term evaluation using a consistent methodology. It is important to verify that any changes detected can be attributed to GLAS as opposed to mandatory requirements or previous schemes. Data collection pre-scheme or at inception is important, as is the regular collection of data at sufficient intervals. The relative success of the Burren and FPS measures could also provide benchmarks against which to judge the environmental and socio-economic performance of GLAS. Finally, the evaluation methodology should take into consideration the work on monitoring frameworks in the Ideal-

HNV, RBAPS, and ACP projects.

Conclusions of the Ex-Post Evaluation of the 2007-2013 RDP

This independent report was submitted to the DAFM and Directorate-General for Agriculture and Rural Development in the European Commission by Indecon International Research Economists in association with the Countryside and Community Research Institute, University of Gloucestershire. The report concerns the ex-post evaluation of the 2007-2013 Programme

Taking into account the EU and Irish policy contexts, and an assessment of the baseline position in terms of the stage of development of the rural economy and the agriculture and agri-food sectors, the Programme identified the following priority areas:

- Axis 1: Improving the competitiveness of agriculture by supporting restructuring, development and innovation;
- Axis 2: Improving the environment and the countryside by supporting land management; and
- Axes 3 and 4: Improving the quality of life in rural areas and encouraging diversification of economic activity.

Methodological Approach to Evaluation

In line with European Commission guidance, Indecon attempted to use a range of advanced and rigorous methods to empirically evaluate the impact of the 2007-2013 RDP. Where feasible, it applied a 'triangulation' of methodologies, with the objective of cross-confirming qualitative and quantitative measures and, where possible, to evaluate counterfactual impacts. As the RDP covered so much of the farming sector in Ireland, counterfactual analysis is difficult, but this challenge was addressed with a number of different methodologies.

Specifically, the consultant's approach involved the application of seven methodologies:

1. Bio-Economy Input-Output Model;
2. Econometric Counterfactual Models;
3. Spatial, GIS-based Analysis;
4. Consultation Programme;
5. Case Studies;
6. Extensive New Survey Evidence;
7. Detailed Analysis of Indicator Data.

Overall Impact on Rural Economy in Ireland

Indecon's modelling results based on the application of a bio-economy input-output model suggested that the RDP expenditure had a significant impact on the level of economic activity in the broader rural economy in Ireland. Expenditures resulted in significant benefits both to farmers and the rural communities within which they live.

The results of the analysis indicate that the total direct plus indirect impact of RDP expenditure on the rural economy was of the order of €3,532m in output, compared to the aggregate national impact of RDP expenditure of €4,184m. As such, 84% of the estimated direct plus indirect benefit of RDP expenditures was felt within the rural economy. This excludes the economic and social benefits of any wider supply-side

impacts. Indecon's modelling also estimated that expenditures under the 2007-2013 RDP supported 4,692 jobs on an annual basis in the rural economy - this represents an important programme-wide socio-economic benefit of the Programme.

Overall, Axis 1 measures are believed to have positively contributed to the competitiveness of the agri sector, mainly through the on-farm investment schemes, as the two age-related schemes (ERS and YFIS) were of too small a scale in aggregate to have had a significant impact.

Overall, Axis 2 measures are believed to have positively contributed to improving the environmental situation in Irish rural areas (common evaluation question 16). However, Indecon believes that additional monitoring data on environmental impacts is needed to confirm these findings and we understand that research on this is being carried out under the current AEC measure (GLAS).

Indecon concluded that the existence of the LEADER approach over four programme cycles is likely to have had created a local competence and resource, and encouraged communities to self-identify projects which could improve the quality of life and economic resilience of many rural towns and countryside areas.

Recommendations

A number of recommendations based on the findings of the ex-post evaluation have been formulated with the objective of informing the design of future policy to support agriculture and rural communities. They can be summarised as follows.

Recommendation 1: Set out the programme's intervention logic in detail.

It is important in designing multi-faceted programmes of the complexity of the RDP, that the intervention logic is clearly stated, and that tensions in such programmes which aim at a number of policy goals should be adequately acknowledged and, where possible, quantified. This will give rise to better, more transparent, decision making, and more effective overall policy design.

Recommendation 2: Allow all scheme administration requirements to be conducted online.

All application systems should be available online. This would have the effect of reducing the burden on farmers and advisors, allow for the development of databases in relation to scheme actions, help improve compliance and reduce the need for compliance checks. It would also assist in relation to programme monitoring.

Recommendation 3: The impact of administrative costs should be considered when evaluating new small schemes.

Indecon thought it important to consider the administration costs in small schemes but accepted that, in certain circumstances, small targeted schemes to address specific issues or to pilot an innovative approach or project may be appropriate.

Recommendation 4: Improve the number of indicators required in RDP evaluations.

While useful in measuring inputs and activities, indicators in the 2007-2013 RDP intended to measure output, result and impact were of more limited use. In future programmes, additional resources should be allocated to ensure the availability of relevant and rigorous indicator data.

Recommendation 5: Address the structural issues within Irish Farming.

Irish farming has a major structural problem in relation to ageing of the farming population, which has not yet been adequately addressed. Indecon recommended that a focus is retained on addressing the structural problem of age in Irish farming though it recognised that there are various ways to address this issue.

Recommendation 6: Ensure sufficient finance for viable capital projects.

There is a need for ongoing focus on promoting investments which yield value-for-money in terms of improvements in productivity, competitiveness and enhancing the environment. Indecon recommended that all sources of potential support to ensure sufficient finance for viable capital investment should be investigated including the potential use of Financial Instruments.

Recommendation 9: Raise the level of support for Organic Farming.

Ireland may have some comparative advantages in the organic production sector. The level of subsidy available under the Organic Farming Scheme during 2007-2013 was relatively low. Indecon recommended that the rate of support should be reviewed if Ireland is to become a major source of organic food.

Recommendation 10: Streamline the administration burden on beneficiaries / project promoters.

Summary of the 2017 evaluation of the 2014-2020 RDP

The 2017 Evaluation on the Implementation of Ireland's RDP addresses the evaluation requirements for the 2017 Annual Implementation Report of Ireland's 2014-2020 RDP and assesses programme achievements through the quantification of indicators and the answering of Common Evaluation Questions (CEQs).

A range of advanced and rigorous methods were used to empirically evaluate the implementation of measures and schemes under the Programme. The methodological approach involved the use of the following to evaluate the 2014-2020 RDP: a detailed consultation programme; survey evidence; detailed analysis of indicator data; external research; case studies; extensive new baseline analysis using Teagasc NFS data.

The main conclusions of the evaluation are set out below and draw on the output of the various analyses presented in the report.

1. Results from a phone survey carried out on farmers who had investments approved under the Targeted Agricultural Modernisation Schemes (TAMS II) but have not yet carried out the planned investment show that 88% of applicants will carry out their investment with 70% of these planning to complete the investment within 1 year. This shows that expenditure under TAMS II is likely to increase substantially over the next period.
2. While it is too early in the programme to fully analyse the results of the BDGP, it is clear that there have been improvements to herd efficiency and fertility. Data for BDGP beneficiaries shows that the calving interval improved by 8 days between 2015 and 2016 but is still some way off the optimal target of 365 days. The average calf per cow per year for BDGP beneficiaries has seen a very marginal improvement from 0.83 in 2015 to 0.84 in 2016. Improving the productivity of the herd by increasing the calf per cow ratio, lowering the replacement rate and by increasing the survival of cows in the herd will lower methane production and in turn reduce carbon footprint on these farms. Baseline Teagasc NFS data shows that the majority of production intensive cattle farms are engaged in the programme and that BDGP beneficiaries have slightly higher emission rates than non-beneficiaries which indicates that the scheme is targeting optimal farms within Ireland's cattle sector.
3. Results from an attitudinal survey on 175 Green Low-carbon Agri-environment Scheme (GLAS) beneficiaries show that 80% of respondents had undertaken farmland bird actions. Low input permanent pasture (47%) and farmland habitats (30%) were the second and third most popular actions undertaken. The key drivers of participation in GLAS were increased income/the scheme

payment (68%), increased income stability (62%) and increasing the sustainability of the farm for future generations (66%).

4. Preliminary findings from a baseline field survey on GLAS actions show that particularly strong sightings were evident for some bird actions (e.g. chough sightings were recorded on or close to 17 of 30 targeted parcels. Moreover, 29 of the 30 targeted parcels for wild bird cover had birds present with over 100 birds spotted on 4 individual parcels. Results for some other species actions were more mixed and this is mainly due to the paucity of individual species generally in Ireland as the habitat conditions appeared to be suitable on the majority of the parcels surveyed. It is anticipated that habitat condition will improve over time from the baseline assessment period.
5. An evaluation report modelling pollutant emissions from agricultural land and the effect of changes in land management found that the percentage of the national pollutant load occurring from land within GLAS varies between 33% and 23% across the five measures selected. Nitrate (N) and phosphorus (P) from land within GLAS are calculated as 27% and 28% of the national pollutant load. Sediment (Z) accounts for the largest percentage (33%) of the national pollutant load attributed to land within GLAS while 23% of the national pollutant load occurring from land within GLAS is attributed to methane and 27% is attributed to nitrous oxide. These values are lower than the proportion of land (i.e. 32%) for most pollutants because dairy farms, which typically have the highest pollutant footprints, are less likely to be in GLAS.
6. As expenditure in 2015 and 2016 under LEADER was based on preparatory and administration activities only, it was not possible to evaluate and fully assess the extent to which LEADER funding has supported local development in rural areas. The primary objective in these years was the selection of Local Action Groups (LAGs) to design and implement the Local Development Strategies (LDSs). LAGs were selected in all of the 28 sub-regional areas in 2016 with funding agreements signed with all 28 groups. Given that the LAG selected in the Galway sub-regional area did not cover the entire county, a separate LAG and LDS was established for the “East Galway” region in 2017 bringing the total number of LAGs to 29.
7. Rural Development Division of the DAFM is the Managing Authority (MA) for the RDP and is responsible for managing and drawing down the Technical Assistance allocation. To date, 11% of the Technical Assistance budget under the current Programme has been used to conduct a number of evaluations, establish a National Rural Network, implement a range of actions under the information and publicity strategy and provide an administrative support service for various RDP measures.

2.f) A description of communication activities undertaken in relation to publicising evaluation findings (in relation to section 6 of the evaluation plan)

Reference shall be made to the evaluation plan, any difficulties encountered in implementation shall be described, together with solutions adopted or proposed.

Date / Period	01/01/2017 - 31/07/2017
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Title of communication activity/event & topic of evaluation findings discussed/ disseminated	Case studies of LEADER projects from the 2007-2013 RDP were publicised on the website of the National Rural Network (NRN) using a storyboard and mapping functionality.
Overall organiser of activity/ event	NRN
Information channels/ format used	Online
Type of target audience	General audience and stakeholders.
Approximate number of stakeholders reached	12500
URL	http://www.nationalruralnetwork.ie/leader

2.g) Description of the follow-up given to evaluation results (in relation to section 6 of the evaluation plan)

No follow-up defined

3. ISSUES WHICH AFFECT THE PERFORMANCE OF THE PROGRAMME AND THE MEASURES TAKEN

3.a) Description of steps taken to ensure quality and effectiveness of programme implementation

Programme Amendments

As part of the annual amendment process, the RDP was modified in January 2017 to provide for the setting up of Producer Organisations (under Measure 2), the introduction of a scheme to enhance animal welfare standards in the Irish sheep flock (under Measure 14) and the use of the European Innovation Partnership (under Measure 16), as a mechanism to channel support for operational groups targeting the conservation of the Hen Harrier, the Freshwater Pearl Mussel together with other environmental priorities related to biodiversity, climate and water quality. This innovative, locally-led, bottom-up approach to achieving common agri-environmental objectives will complement the generic, prescription-based model featured in more broad-based agri-environment schemes.

Redesignation of Areas of Natural Constraint (ANC)

Under the Rural Development Regulation (No.1305 of 2013), each Member State must designate areas eligible for payments under the ANC scheme. From 2018 eligible areas must instead be designated using a set list of bio-physical criteria such as excessive soil moisture, limited soil drainage, unfavourable soil texture, etc.

The Department has commenced work on this project and relevant technical experts are working on sourcing and analysing the data in relation to the new criteria. Department officials have also been in contact with the Joint Research Centre and DG Agri of the EU Commission in relation to technical issues arising. This analysis will identify areas deemed to be facing natural constraints, which will in parallel be subjected to a refinement process. It is envisaged that stakeholders will be consulted as this process develops. It must be noted, however, that it is not possible to predict what the outcome will be for specific land areas or parcels until this process is complete.

As part of discussions on legislative amendments at EU level, it is proposed to extend the 2018 deadline on an optional basis. This proposal is currently passing through the relevant approval process at EU level, along with a number of other regulatory changes, in what is referred to as the 'Omnibus Proposal.'

In response to specific performance issues identified by DAFM, it has reallocated staff resources and taken various steps, including those outlined below, to ensure the quality and effectiveness of Programme implementation.

GLAS payment delays

When initial processing of every GLAS I and II participant due an advance payment in respect of 2016 was completed, of these 36,700 applications, approximately 1,400 applicants were informed that further information was required from them before their application could be advanced.

It was explained that area-based schemes under the RDP are subject to EU rules which require detailed administrative checks on all applications, including cross checks with the Land Parcel Identification System, to be completed before payments can issue. These rigorous procedures, together with on-farm inspections, apply to a number of scheme payments including GLAS and are necessary to ensure that applications meet the scheme conditions and cross-compliance requirements.

This often involved direct contact from GLAS Division with the participant or their advisor to resolve outstanding issues. Participants were contacted by phone in many cases and also by text and letter to advise them of the position. As this was the first full-year's payment under the scheme it is the first time many of these individual issues were addressed, which led to a time-consuming process.

Examples of issues leading to delayed payments are as follows:

- declaration of an incompatible parcel usage for GLAS action chosen;
- changes in parcel boundaries on which a GLAS action is chosen including splitting or merging of parcels;
- an applicant no longer claiming a parcel on BPS 2016;
- incomplete documentation such as incorrect information on the Low-Emission Slurry declaration;
- incomplete interim commonage management plans; and
- incompatible data and parcel history on Department databases.

In cases where outstanding issues with individual applications are resolved, payments will continue to issue on an ongoing weekly basis.

Payments Delivery Group

While Programme quality is addressed primarily at business area level, an internal Payments Delivery Group (PDG) has been set up to monitor progress on application processing and payments with a view to improving operational performance, particularly prompt payment to scheme beneficiaries, and predictability of outcomes. The PDG, which began work in January 2017, is an oversight group comprising senior management from Finance, IMT and business areas dealing with farm supports and controls. It contributes to programme effectiveness by:

- optimising co-ordination within the department's farm sector supports and controls business areas, including exploiting synergies and focusing on interdependencies between Pillar I and II schemes; and
- facilitating, co-ordinating and planning best use of ICT resources to support delivery of RDP schemes.

GLAMS

As an initiative to improve the effectiveness of programme delivery, the Department has developed a generic land mapping and planning system, called GLAMS which will be used by all locally-led schemes. The Burren Programme is the first schemes to use this system. The system will be used by the Burren administrative team and the farm advisors to develop 5-year plans for all scheme participants, and subsequent yearly workbooks which will describe the actions to be carried out on holdings each year.

European Innovation Partnerships for Agriculture Project Groups

Following the first open call for proposals under EIP-AGRI, the 23 successful groups selected to move to the second round of the process were invited to attend a workshop organised by the National Rural Network in Athlone on 31 May,. Mr Fintan O’Brien of the Department of Agricultural Food and Marine (DAFM) welcomed the participants, outlined the structure of the workshop and explained the next steps of the process. Ms Angela Corcoran from DAFM gave an overview of EIPs, the structure of how a detailed project plan must be constructed and the assessment process to choose projects to move to the final stage. Mr Fergus O’Connell, of ETP The Structured Project Management Company, gave a comprehensive explanation of project plan development and Mr Ronan O’Flaherty, DAFM, facilitated discussion groups and a question and answer session.

The Workshop was very informative and gave group members the tools to proceed with the preparation of project plans. It also gave them the opportunity to meet each other and make connections for future networking. An information pack was issued to all groups following the workshop. All groups must prepare a comprehensive project proposal for submission to DAFM by 29 September 2017.

Other Steps

Other steps that can be mentioned here were the re-opening in April 2017 of the Beef Data and Genomics Programme to ensure that as many farmers as possible were afforded the opportunity to participate in a scheme that is at the forefront of developing more environmentally sustainable beef production. This move resulted in some 2,000 additional farmers joining the scheme, the majority of them new entrants to farming.

Also, from January 2017, new TAMS II applicants have six months from approval to put mobile equipment in place and one year from approval to put fixed investments in place. These requirements apply to all TAMS II tranches from tranche 6 onward.

3.b) Quality and efficient delivery mechanisms

Simplified Cost Options (SCOs) ¹, proxy automatically calculated

	Total RDP financial allocation [EAFRD]	[%] planned SCO coverage out of the total RDP allocation ²	[%] realised expenditure through SCO out of total RDP allocation (cumulative ³)
Fund specific methods CPR Article 67(5)(e)	2,190,592,153.00	78.59	30.11

¹ Simplified Cost Options shall be intended as unit cost/flat rates/lumps sums CPR Article 67(5) including the EAFRD specific methods under point (e) of that article such as business start-up lump sums, flat rate payments to producers organisations and area and animal related unit costs.

² Automatically calculated from programme version's measures 06, 09, 10, 11, 12, 13, 14, 15, 18

³ Automatically calculated from declarations of expenditure's measures 06, 09, 10, 11, 12, 13, 14, 15, 18

Simplified Cost Options (SCOs), based on specific detailed MS data [optional]

	Total RDP financial allocation [EAFRD]	[%] planned SCO coverage out of the total RDP allocation	[%] realised expenditure through SCO out of total RDP allocation (cumulative)
Total CPR Article 67(1)(b)(c)(d) + 67(5)(e)	2,190,592,153.00		
Fund specific methods CPR Article 67(5)(e)	2,190,592,153.00		

E-management for beneficiaries [optional]

	[%] EAFRD funding	[%] Operations concerned
Application for support		
Payment claims		
Controls and compliance		
Monitoring and reporting to the MA/PA		

Average time limits for beneficiaries to receive payments [optional]

[Days] Where applicable, MS deadline for payments to beneficiaries	[Days] Average time for payments to beneficiaries	Comments

4. STEPS TAKEN TO IMPLEMENT TECHNICAL ASSISTANCE AND PROGRAMME PUBLICITY REQUIREMENTS

4.a) Action taken and state of play as regards the establishment of the NRN and the implementation of its action plan

4.a1) Actions taken and state of play as regards establishment of the NRN (governance structure and network support unit)

The management contract for Ireland's National Rural Network (NRN) for the previous RDP expired in December 2013.

A tender request for the the provision of an NRN service for the current RDP was issued in October 2015.

Resulting from this competitive open call, Irish Rural Link in partnership with the Wheel, NUI Galway and Philip Farrelly & Co. was chosen to run Ireland's NRN.

The contract was awarded in January 2016 and an action plan was finalised following discussions with the MA and implementing line divisions.

NRN Advisory Sub-Committees

Five advisory sub-committees were established in late 2016 in order to support the NRN's effective engagement with the RDP under a number of specific themes including: EIP-Agri, LEADER, Viability of Farming Communities, Climate Change, Biodiversity and EU LIFE. The sub-committees will achieve this goal through:

- providing advice and support to the NRN;
- sharing learning and identifying best practice examples;
- identifying key thematic issues of concern to the NRN; and
- providing input to the NRN Action Plan

Members of the sub-committees, which meet twice a year, are selected by the relevant NRN project team lead member for their expertise in the relevant thematic areas. They include individuals from DAFM, farming bodies, agricultural advisors and third level institutions as well as Local Action Groups, Birdwatch Ireland, Feed Industry and LIFE projects.

4.a2) Actions taken and state of play as regards the implementation of the action plan

To operationalise the NRN, nine work packages on a number of governing themes were outlined in the NRN action plan.

The work packages include: Network Management, Best Practice, EU Networking, Biodiversity and Environmental Challenges, Climate Change and the Farming Community, Viability and Competitiveness of the Farming Community, LEADER, the LIFE Programme and European Innovation Partnership for

Agricultural Productivity and Sustainability.

Listed below are the main actions taken by the NRN to implement the plan in 2016.

Work Package One – Network Management

- Held monthly NRN consortium meetings to ensure the efficient operation of the network.
- Grew the NRN membership to 1,620 members in Year 1.
- Held bi-weekly and subsequently monthly team meetings to implement the communications plan.
- Submitted quarterly financial and narrative reports to the Managing Authority.
- Produced two videos: An introduction to the NRN and the Organic Farming Scheme.
- Established 5 sub-committees to advise the NRN on its work programme and to maximise the dissemination of information on the RDP.

Work Package 2 – Best Practice

Researched and produced a minimum of 2 best practice examples per quarter which were disseminated via the website, monthly e-bulletins and quarterly newsletters.

Work Package 3 – EU Networking

- Attended the Cork 2.0 Conference on 5-6 September.
- Attended the LEADER / CLLD workshop in Sweden on 7 December.
- Attended 2 meetings of the UK / Ireland NSUs in Birmingham. The networks shared the different elements of their work plan and potential areas of cooperation. The potential UK NSUs' event for 2017 was discussed and Belfast was selected as the venue.
- The NRN continues to share ENRD newsletters through its membership along with other NRNs from across the EU.
- 6 Irish best practices cases have been shared with the ENRD for wider dissemination.

Work Package 7 – LEADER

- Represented the NRN and presented on its role at two recent events relating to Local Community Development Committees.
- Co-organised and facilitated a joint NRN and Rural Network for Northern Ireland conference to promote LEADER Co-operation with 124 participants across 2 days. This event was held in Newry, NI on 6-9 November 2016.
- Both networks created an extensive LEADER co-operation toolkit which was distributed at the event and subsequently shared with all LAGS in Ireland and Northern Ireland.
- Began work on the creation of a LEADER storyboard showcasing LEADER case studies to be released in the first quarter of 2017.

Work Package 9 – EIP-AGRI

- An international EIP-Agri conference was held in Athlone on 14 October 2016 with 200 people in attendance.

The NRN Communications Plan

Website

- The NRN website was designed and developed in Quarter 1 and content added weekly.
- A link to the NRN website was added to a number of key websites (such as the DAFM's) to direct traffic to the NRN page.
- Conducted Google search engine optimisation on the website and now the website is top of the Google search rankings.
- Website targets of 3,750 unique visitors and 8,750 page views are being achieved quarterly.

Social Media and engagement

- Facebook, Twitter and LinkedIn pages for the NRN were established and updated daily by NRN partners.
- The following targets are being achieved quarterly: 36 Facebook posts - reach 5,400 people; 90 tweets sent; 58,500 people reached.
- Monthly e-bulletins are designed and distributed to over 1,500 members.
- 1,500 copies of the Quarterly Newsletter were designed and distributed in hard copy version to key stakeholders along with an electronic version disseminated to the NRN membership.

Printed Materials

- The following items were printed to publicise the NRN: A5 flyers, A3 posters, pull-up banners, headed paper and business cards. These materials were distributed at events such as the National Ploughing Championships.

4.b) Steps taken to ensure that the programme is publicised (Article 13 of Commission Implementing Regulation (EU) No 808/2014)

The Information and Publicity Strategy for the 2014-2020 RDP* was submitted to the Monitoring Committee in November 2015. It identified the information and publicity actions necessary to ensure that the specific target groups have full access to current information on the Programme. The MA, Rural Development Division of the DAFM, has responsibility for the preparation and implementation of the strategy. This task is shared with the various implementing line divisions and with the Department of Rural & Community Development (DRCD) As DRCD is responsible for the LEADER element of the programme,

it has a pivotal role in implementing the Information and Publicity Strategy for that measure. The National Rural Network (NRN) also ensures that the RDP is publicised and has implemented a comprehensive communication plan as a part of its Action Plan (see section 4.a2). A number of information and publicity actions were carried out over the 2014-2016 period to ensure that beneficiaries, stakeholders and the wider public were made aware of the RDP and some of these are outlined below:

- 110 press releases providing information on all RDP measures were prepared and distributed to 1,147 key stakeholders and media outlets;
- 70 Circulars providing scheme information sent to GLAS Advisors;
- 10 Circulars providing information were also sent to LEADER Local Action Groups; and
- 18 presentations on Ireland's RDP were made to various stakeholder groups as well as a number of visiting international delegations from Hungary, the Balkan states, Korea and China.

Information sessions and seminars provide beneficiaries and advisors with an opportunity to discuss the details of RDP measures with relevant DAFM and DRCD staff.

- 91 information sessions and seminars were carried out in a number of locations from 2014 to 2016.
- 27% of these consisted of information and training sessions for farmers and facilitators under Measure 1: Knowledge Transfer Groups while almost 20% consisted of information session on TAMS II which included 3 training sessions that specifically focused on the TAMS II IT application system. These training sessions aimed to address any issues that advisors and scheme participants had with the IT system thereby facilitating a quicker application and approval process under TAMS II.
- 11 LEADER information events were held. These included the official launch of LEADER as well as a number of sessions on capacity building and operating rules focus groups. These events attracted an average of 71 participants. Further information meetings and training seminars were carried out for GLAS and BDGP participants and for locally-led schemes.
- 34 Demonstration Farm Walks were organised to allow farmers to discuss and share best practice farming methods. DAFM in conjunction with the National Parks and Wildlife Service and BirdWatch Ireland held 8 farm walks in 2015 and 2016 on farms that undertook GLAS actions aimed at preserving the Grey Partridge, Twite and Corncrake. 13 Demonstration Farm Walks also took place on farms within the Organic Farming Scheme. These walks were organised by DAFM and Teagasc to encourage a greater uptake of organic farming in Ireland.

A number of publications have been produced to create awareness of RDP measures and schemes among stakeholders. A RDP summary booklet containing a general description of each scheme as well as information on eligibility criteria and support rates was published in September 2015. This booklet was updated in 2016 to take account of the changes made following adoption of the first Programme amendment. The booklet published in September 2016 is available online and at Department offices. It has been distributed at the National Ploughing Championships and NRN events. Other publications include a factsheet on the LEADER programme which is produced and distributed by DRCD and an internal information note on RDP implementation and management structures for operational divisions.

A dedicated online RDP portal is located on both DAFM's and the DRCD websites. The content of online material on each measure and scheme provided on these websites and on various social media platforms run by both Departments is updated regularly. The NRN also has a separate website and social media accounts to promote the RDP. Finally, DAFM uses a text messaging service to remind beneficiaries of important deadlines such as scheme opening and closing dates.

*<http://www.agriculture.gov.ie/media/migration/ruralenvironment/ruraldevelopment/ruraldevelopmentprogr>

amme2014-2020/InformPublicStrat040116.pdf

5. ACTIONS TAKEN TO FULFIL EX ANTE CONDITIONALITIES

5.a) Unfulfilled criteria of general ex-ante conditionalities

General ex-ante conditionality	Criterion
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5.b) Actions taken to fulfil applicable general ex-ante conditionalities

General ex-ante conditionality	Criterion	Actions to be taken	Deadline	Body responsible for fulfilment	Actions taken	Date of fulfilment of the action	Commission position	Comments
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5.c) Unfulfilled criteria of priority-linked ex-ante conditionalities

Priority-linked ex-ante conditionality	Criterion
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5.d) Actions taken to fulfil applicable priority-linked ex-ante conditionalities

Priority-linked ex-ante conditionality	Criterion	Actions to be taken	Deadline	Body responsible for fulfilment	Actions taken	Date of fulfilment of the action	Commission position	Comments
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5.e) (Optional) additional information to complement the information provided on the 'actions taken' table

Not applicable. All ex-ante conditionalities were fulfilled prior to Programme adoption.

6. DESCRIPTION OF IMPLEMENTATION OF SUB-PROGRAMMES

Not applicable: Ireland has no sub-national programmes funded by the EAFRD.

7. ASSESSMENT OF THE INFORMATION AND PROGRESS TOWARDS ACHIEVING THE OBJECTIVES OF THE PROGRAMME

7.a) CEQ01-1A - To what extent have RDP interventions supported innovation, cooperation and the development of the knowledge base in rural areas?

7.a1) List of measures contributing to the FA

Priority 1 of EU rural development policy is fostering knowledge transfer and innovation in agriculture, forestry and rural areas.

Focus Area (FA) 1A of the RDP is specifically concerned with fostering innovation, co-operation and the development of the knowledge base in rural areas.

The combination of measures contributing to FA 1A are:

Measure 1 - Knowledge Transfer (KT) Groups and training for BDGP and GLAS participants;

Measure 2 - Targeted Advisory Service on Animal Health and Welfare (TASAHW) and Continued Professional Development (CPD) for advisors;

Measure 16 - General European Innovation Partnership (EIP) projects and the Collaborative Farming Grant Scheme.

KT Groups, GLAS training, CPD training and EIP projects were not evaluated for this AIR because there were no payments to scheme participants during the reporting period (i.e. 2014-2016). Support for collaborative farming will be fully discussed in answering the evaluation questions for FA 2A and FA 2B and TASAHW will be analysed under FA 3B. Thus the evaluation question for FA 1A will be answered exclusively by reference to an appraisal of BDGP training.

Sub-measure 1.1: Training delivered in support of the Beef Data and Genomics Programme (BDGP)

Relevant Focus Areas and Common Evaluation Questions

- FA 1A To what extent have RDP interventions supported innovation, cooperation and the development of the knowledge base in rural areas?
- FA 1C To what extent have RDP interventions supported lifelong learning and vocational training in the agriculture and forestry sectors?
- FA 5D To what extent have RDP interventions contributed to reducing GHG and ammonia emissions from agriculture?

Background to sub-measure

Training was provided to approved beneficiaries of the BDGP which is programmed under Measure 10 of Ireland's RDP. It aims to optimise the delivery of the BDGP and while the intervention logic and contribution to focus areas are integrated with Measure 10, funding for this training is allocated under Measure 1.

There are two elements to the BDGP training. The first element is General BDGP training where participating farmers are required to attend an approved training course which provides clear information on what is required at individual farm level and increases participants' knowledge of genomics and breeding

selection. The second element of BDGP training consists of a two-hour preparatory training course on the carbon navigator.

Carbon navigator training was delivered in a one-to-one setting by approved advisors. All participants were required to complete the training elements of the BDGP before 31 October 2016 and the carbon navigator by 30 November 2016. Participants who did not complete the courses by the deadlines had penalties applied to their 2015 and 2016 payments. Those participants who did not attend the training course and / or complete the carbon navigator by 30 April 2017 and 31 May 2017 respectively have been disqualified from the BDGP and any payments already made are subject to recovery.

General Training

General Training courses for BDGP were rolled out across the country from March to October 2016. Participating farmers received a payment of €166 from the training provider to compensate them for the time element and travel costs associated with attending the training. Over €3.8m was paid to farmers and 24,174 (97.5%) of BDGP participants were trained at 90 locations throughout the country.

7.a2) Link between judgment criteria, common and additional result indicators used to answer the CEQ

Judgment criteria	Common result indicator	Additional result indicator
RDP projects have been innovative and based on developed knowledge	T1: percentage of expenditure under Articles 14, 15 and 35 of Regulation (EU) No 1305/2013 in relation to the total expenditure for the RDP (focus area 1A)	
Operational groups have been created		
Variety of partners involved in EIP operational groups		Number and types of partners involved in cooperation projects
Innovative actions have been implemented and disseminated by the EIP operational groups		Number of supported innovative actions implemented and disseminated by EIP operational groups

7.a3) Methods applied

BDGP training - methods applied

Teagasc produced a report based on the training course feedback sheets completed by all attendees at the training courses. A 5% (1,223) sample of the feedback sheets were analysed by Teagasc . The feedback sheets contained seven different questions with multiple choice answers and a final comment section.

7.a4) Quantitative values of indicators and data sources

Indicator type	Indicator code and name (unit)	Ratio	Indicator value	Calculated gross value	Calculated net value	Data and information sources
Common result indicator	T1: percentage of expenditure under Articles 14, 15 and 35 of Regulation (EU) No 1305/2013 in relation to the total expenditure for the RDP (focus area 1A)	No				
Additional result indicator	Number and types of partners involved in cooperation projects	No				
Additional result indicator	Number of supported innovative actions implemented and disseminated by EIP operational groups	No				

7.a5) Problems encountered influencing the validity and reliability of evaluation findings

BDGP training - problems encountered influencing the validity and reliability of evaluation findings

The BDGP general training was completed by 97.5% of BDGP participants before the required deadline and 23,553 carbon navigators were completed in 2016. The small minority of BDGP participants not completing the BDGP training and the carbon navigator by the required deadlines either dropped out of the scheme or were penalised on their 2015 and 2016 payments. Those herdowners who did not attend the training course or complete the carbon navigator within six months of the deadline have been disqualified from the BDGP and any payments already made are subject to recovery.

7.a6) Answer to evaluation question

BDGP training - findings

BDGP General Training

- 99% of the course participants surveyed stated that they had a better understanding of what was expected of them as participants in BDGP.
- 97% of the course participants surveyed stated that as a result of completing the BDGP general training course delivered by Teagasc that they now knew more about the six requirements of being in the programme, which shows how effective the advisors were at delivering the training and also shows the usefulness of the variety of training materials used.

Participants were asked to rank their knowledge of the six basic requirements of the BDGP scheme all of which contribute to reducing GHG and ammonia emissions outlined in Focus Area 5D. The 6 requirements include data recording, understanding the Eurostar indexes, understanding BDGP reports, selecting a stock bull / AI bull using indexes and developing a replacement policy. Each of these topics was explained at length by both advisors and formed the core messages of the course. Figure 4.1.2 of the RDP evaluation report shows that following course completion, 61% of participants stated they knew a lot more whilst less

than 2% knew very little extra, which shows the effectiveness of the training and the usefulness of the variety of training materials used. Similar results were found when participants were asked to state their level of understanding of the individual 6 requirements with 70% of participants stating they knew a lot more on selecting a stock bull / AI bull using indexes following the training course.

The feedback sheet allowed participants to state if they were dissatisfied with any element of the training course. While 86% left this section blank, less than 1% indicated that the course should be held in the evening or at the weekend. Less than 1% said that the scheme should have been run much earlier in the breeding season and that more one to one time with advisors should be allowed to explain individual breeding reports.

Carbon Navigator Training

The carbon navigator is an online farm management package developed by Bord Bia and Teagasc to promote the uptake of carbon-efficient farming practices and demonstrates, for each scheme participant, the level of emissions at farm level while also setting indicative targets for reducing them.

Carbon navigator training is delivered in a one-to-one setting by approved advisors who have undergone the relevant CPD module under Measure 2.3 of the RDP. The carbon navigator training support delivered corresponds to a payment at the rate of €160 to the advisor. The farmer's cost is incorporated into their annual BDGP payment. All carbon navigator training was carried out by November 2016 and 23,553 carbon navigators were completed in 2016.

The first completion of the carbon navigator must be undertaken in conjunction with an approved adviser. Farmers participating in the BDGP were required to make contact with a qualified adviser to assist them in the completion of their carbon navigator for 2016. The list of qualified advisers was made available on the Department's website. Once a farmer made initial contact, the adviser provided 2 hours of preparatory training on the carbon navigator including assisting the farmer in the online completion of the navigator and providing farmers with an overview of the benefits associated with reaching the individual targets set out in the navigator.

The participant is required to provide details that highlight how a farm's GHG emissions can be reduced. The areas covered are as follows:

- Length of grazing season.
- Age at first calving.
- Calving Interval.
- Animal weight gain.
- Nitrogen efficiency.
- Slurry management.

The carbon navigator compares an individual's farm performance with other similar farms and highlights the potential impact on income and GHG emissions of reaching the targets set. For example, by turning animals out to grass two weeks earlier in spring, a farmer will save on feed costs and see an increase in animal performance by getting more grass into the diet. Research from Murphy et al. 2013[1] shows that the overall estimate for reductions in GHG emissions in beef systems related to increased grazing season length

is 0.09% / kg beef carcass per additional day. In dairy systems, the reduction is estimated at 0.17%. The economic impact is estimated at €1.54 and €0.095 per day per livestock unit for suckler cows and followers respectively and €2.70 per cow per day in dairy.

[1] The Carbon Navigator – A decision support tool to reduce greenhouse gas emissions from livestock production systems (Murphy et al. 2013)

7.a7) Conclusions and recommendations

7.a7.a) Conclusion / Recommendation 1

Conclusion:

BDGP training - conclusions

BDGP General Training courses were rolled out across the country from March to October 2016. A total of 24,174 (97.5%) BDGP participants were trained; 99% of participants stated that they had a better understanding of the requirements of the BDGP following the training course whilst less than 1% stated that they had very little extra understanding.

Carbon navigator training was delivered in a one-to-one setting by approved advisors. All carbon navigator training was carried out by November 2016 and 23,553 carbon navigators were completed in 2016. A more detailed and robust analysis on the impact of the carbon navigator will be conducted over the duration of the BDGP as each applicant must annual submit data to allow for an update of the carbon navigator.

Training delivered in support of the BDGP will increase the knowledge base and ifelong learning in the agriculture sector as a primary effect. It will also increase farmer knowledge of techniques and best practice in the beef farming and will contribute to reducing GHG and ammonia emissions from agriculture as a secondary effect.

Recommendation:

BDGP training - recommendations

1. One of the main recommendations from course attendees who were surveyed was that the training course for this second tranche of the BDGP should occur as soon as possible after new applicants have committed.
2. For BDGP II, it is important that the same process is used to ensure that participants attend the training courses and complete training. Over 97% of BDGP I participants completed the compulsory training element in the required timeframe.

7.b) CEQ02-1B - To what extent have RDP interventions supported the strengthening of links between agriculture, food production and forestry and research and innovation, including for the purpose of improved environmental management and performance?

7.b1) List of measures contributing to the FA

Priority 1 of EU rural development policy is concerned with fostering knowledge transfer and innovation in agriculture, forestry and rural areas.

Focus Area (FA) 1B of the RDP is specifically concerned with strengthening the links between agriculture, food production and forestry and research and innovation, including for the purpose of improved environmental management and performance.

The planned output indicators for FA 1B relate to the number of operational groups supported under the European Innovation Partnership (EIP) (sub-measure 16.1) and the number of co-operation operations supported under the Collaborative Farming Grant Scheme (CFGS) (sub-measure 16.3). No EIP payments were made during the reporting period and the operation of the CFGS will be assessed in answering the common evaluation questions for FA 2A and FA 2B.

7.b2) Link between judgment criteria, common and additional result indicators used to answer the CEQ

Judgment criteria	Common result indicator	Additional result indicator
		Number and types of partners involved in cooperation projects
Long term collaboration between agriculture, food production and forestry entities and institutions for research and innovation has been established	T2: Total number of cooperation operations supported under the cooperation measure (Article 35 of Regulation (EU) No 1305/2013) (groups, networks/clusters, pilot projects...) (focus area 1B)	
Cooperation operations between agriculture, food production and forestry and research and innovation for the purpose of improved environmental management and performance have been implemented		

7.b3) Methods applied

N/A.

7.b4) Quantitative values of indicators and data sources

Indicator type	Indicator code and name (unit)	Ratio	Indicator value	Calculated gross value	Calculated net value	Data and information sources
Common result indicator	T2: Total number of cooperation operations supported under the cooperation measure (Article 35 of Regulation (EU) No 1305/2013) (groups, networks/clusters, pilot	No				

	projects...) (focus area 1B)					
Additional result indicator	Number and types of partners involved in cooperation projects	No				

7.b5) Problems encountered influencing the validity and reliability of evaluation findings

N/A.

7.b6) Answer to evaluation question

N/A.

7.b7) Conclusions and recommendations

7.c) CEQ03-1C - To what extent have RDP interventions supported lifelong learning and vocational training in the agriculture and forestry sectors?

7.c1) List of measures contributing to the FA

Priority 1 of EU rural development policy is concerned with fostering knowledge transfer and innovation in agriculture, forestry and rural areas.

Focus Area (FA) 1C of the RDP is specifically concerned with fostering lifelong learning and vocational training in the agricultural and forestry sectors.

The only measure contributing to Focus Area (FA) 1 is Measure 1 - Knowledge Transfer (KT) Groups and training for BDGP and GLAS participants. In answering the evaluation question for FA 1A, it was explained that because no payments were made in respect of KT Groups and GLAS training during the reporting period (i.e. 2014-2016), those schemes were not appraised as part of the current evaluation exercise.

An assessment of BDGP training was previously discussed in relation to FA 1A and will not be repeated here.

7.c2) Link between judgment criteria, common and additional result indicators used to answer the CEQ

Judgment criteria	Common result indicator	Additional result indicator
The number of rural people who have finalised lifelong learning and vocational training in the agriculture and forestry sectors has increased	T3: Total number of participants trained under Article 14 of Regulation (EU) No 1305/2013 (focus area 1C)	

7.c3) Methods applied

N/A.

7.c4) Quantitative values of indicators and data sources

Indicator type	Indicator code and name (unit)	Ratio	Indicator value	Calculated gross value	Calculated net value	Data and information sources
Common result indicator	T3: Total number of participants trained under Article 14 of Regulation (EU) No 1305/2013 (focus area 1C)	No				

7.c5) Problems encountered influencing the validity and reliability of evaluation findings

N/A.

7.c6) Answer to evaluation question

N/A.

7.c7) Conclusions and recommendations

7.d) CEQ04-2A - To what extent have RDP interventions contributed to improving the economic performance, restructuring and modernization of supported farms in particular through increasing their market participation and agricultural diversification?

7.d1) List of measures contributing to the FA

Priority 2 of EU rural development policy is concerned with enhancing farm viability and competitiveness and promoting innovative farm technologies.

Focus Area (FA) 2A of the RDP is specifically concerned with improving the economic performance of all farms and facilitating farm restructuring and modernisation with a view to increasing market participation and orientation as well as agricultural diversification.

The following RDP measures and schemes are programmed as contributing to FA 2A:

Measure 1 - Knowledge Transfer (KT) Groups;

Measure 2 - Continued Professional Development (CPD) for advisors;

Measure 4 - Targeted Agricultural Modernisation Scheme (TAMS II);

Measure 16 - General European Innovation Partnership (EIP) projects; &

Measure 16 - Collaborative Farming Grant Scheme (CFGs).

KT groups, CPD training and EIP projects were not evaluated because there were no payments to beneficiaries during the reporting period (i.e. 2014-2016). Measure 2 training in relation to the advisory service on animal health and welfare (TASAHW) will be examined under FA 3B. In addition to support for collaborative farming, the schemes to be examined here are animal housing, dairy equipment and organic capital investment elements of TAMS II.

Collaborative farming is programmed under FA 2A (25%) and 2B (75%). Likewise, the three above-mentioned capital investment schemes are programmed under FA 2A - with a combined budget of over €155m., these schemes are expected to attract over 70% of TAMS II participants based on a 2023 target of almost 17,500 supported holdings / beneficiaries.

The emphasis of evaluation is on enhancing competitiveness under FA 2A and on generational renewal under FA 2B. Before considering in detail the evaluation methods and findings relating to all these schemes, it is first necessary to outline their objectives and operation.

Collaborative Farming Scheme

Collaborative approaches to farming include inter-farm arrangements, intra-farm arrangements, share farming and contract rearing. They can assist in addressing a range of infrastructural issues identified in the RDP preparatory analysis such as limited land availability and farm size, work / life balance issues, the development of skill sets and the knowledge base, and intergenerational transfer.

This sub-measure addresses a number of those issues and is specifically aimed at encouraging the formation of new farm partnerships by contributing to the legal, advisory and financial services costs incurred by farmers in drawing up of farm partnership agreements. Support is available for partnerships which are formed between actors not from the same family as well as those formed within families.

TAMS II

The objective of TAMS II is to promote capital investment, competitiveness and sustainability in the grant-aided sectors. The standard rate of grant aid is 40% with a higher rate of 60% available to young farmers wishing to enter the sector or improve their farm holdings. A super ceiling investment of €80,000 per holding over the RDP lifetime is also in place for all TAMS schemes except one (Low Emission Slurry Spreading). Under the scheme €395m is provided for the following:

- Young Farmers Capital Investment Scheme (€114m);
- Dairy Equipment Scheme (€50m);
- Organic Capital Investment Scheme (€8m);
- Animal Welfare, Safety and Nutrient Storage Scheme (€170m);
- Low Emission Slurry Spreading (€10m); &
- Pig and Poultry Investment Scheme (€17m).

A Tillage Scheme providing €26m in support opened in March 2017.

7.d2) Link between judgment criteria, common and additional result indicators used to answer the CEQ

Judgment criteria	Common result indicator	Additional result indicator
		Economic farm size structure of supported farms
Agricultural output per annual working unit of supported agricultural holdings has increased	R2: Change in Agricultural output on supported farms/AWU (Annual Work Unit) (focus area 2A)*	
Farms have been modernized	R1 / T4: percentage of agricultural holdings with RDP support for investments in restructuring or	

	modernisation (focus area 2A)	
Farms have been restructured	R1 / T4: percentage of agricultural holdings with RDP support for investments in restructuring or modernisation (focus area 2A)	

7.d3) Methods applied

Collaborative farming - methods applied

A quantitative analysis using National Farm Survey (NFS) data to establish the baseline position of CFGS beneficiaries and non-beneficiaries. The relevant NFS indicators will be monitored over the entire programme period allowing an assessment of the impact of RDP interventions on their stated objectives under competitiveness and generational renewal. The 2015 data utilised in this analysis can be considered as a baseline position of beneficiaries and non-beneficiaries.

1. Competitiveness: Gross Output per Annual Work Unit (a complimentary result indicator), gross output (€) per hectare of utilised agricultural area (UAA) and family farm income will be used to assess progress in improving competitiveness.
2. Generational Renewal: The age profile of farmers will be used to assess generational renewable and the extent that farms are demographically non-viable (farmer is aged over 60, and there are no members of the farm household younger than 45).

The indicator values for beneficiaries and non-beneficiaries will be monitored every year using the NFS data and the “net” effect of the RDP invention will be quantified. The results will be expressed in “net” terms to include any indirect effects (deadweight loss, leverage, substitution, etc.) and to exclude any effects that cannot be attributed to the RDP intervention.

Relevant research using microsimulation modelling to analyse the effect of a range of policy incentives including the CFGS have on different farm partnerships in the dairy and beef sectors.

Findings

The Collaborative Farming Grant Scheme (CFGS) is operated in six month tranches and is open to all farm partnerships that have been placed on the Department’s Register of Farm Partnerships which opened in April 2015. Three tranches opened in 2015-2016 with the first opening in July 2015, the second in January 2016 and the third opening in September 2016. Under the CFGS, all new farm partnerships are eligible to receive a contribution of up to 50% towards the legal, accounting and advisory costs involved in the setting up the partnership, up to a maximum of €2,500.

Baseline Analysis

Data on CFGS beneficiaries paid in 2015 and 2016 was matched to 2015 Teagasc NFS data in order to establish a baseline position of beneficiaries against non-beneficiaries and will be used to assess the progress in achieving the objectives of improving competitiveness / economic performance and generational renewal. It will be used to evaluate results of these farms against their counterfactual (i.e. to calculate the changes that would have occurred without the specific programme intervention) throughout the lifetime of the CGFS.

Following the matching exercise, just 13 farms within the Teagasc NFS were paid under the CFGS which equates to over 650 farms when the weighting factors are assigned. The evidence shows that the majority of

farms that have been paid under the CFGS are in the dairy sector.

TAMS II - methods applied

Qualitative survey of approved applicants to gather information on applicants' behaviour and their intention to carry out investments approved under TAMS II.

Quantitative analysis using National Farm Survey (NFS) data to establish the baseline position of TAMS II participants and non-participants before the investments are completed. The NFS data will be used to evaluate results of these farms against their counterfactual (i.e. to calculate the changes that would have occurred without the specific programme intervention) throughout the lifetime of TAMS II. It will also be used to assess the impacts and results of support under the scheme on participant farms each year.

Findings

Survey of approved applicants

A phone survey on a sample of 257 farms that had investments approved under the TAMS II but have not yet undertaken the investment was conducted on behalf of DAFM. The purpose of the survey was to discover whether these farmers intend to carry out all of their approved investments, only some of the investments or none of the investments and the reasons for the delay. The following results emerged from the survey:

- 88% of farms surveyed indicated that they intended to carry out their investment, while only 6% indicated that they did not intend to proceed with the investment;
- 42% of farms intend to carry out their improved investment within 6 months, while a further 29% indicated that they will carry out the work within 1 year. So TAMS II expenditure is likely to increase substantially in the short term.
- 28% stated that 'a fall in income due to a change in the price of agricultural commodities' was the main reason why the planned investments under TAMS have not been carried out to date. Other reasons included those who were 'less optimistic about the future due to Brexit' (16%) and those who stated that bank interest rates were too high (13%). 11% stated that they could not get access to credit for the matching funding;
- An increase in farm efficiency is the main reason cited for applying for TAMS support, with just one third of farmers claiming that they would carry out the same level of investment without a grant;
- Borrowing from a bank / financial institution (54%) and own savings (33%) are the main sources used to access additional funding for investments.

Baseline Analysis

The National Farm Survey (NFS) is conducted by Teagasc on an annual basis and is a random, nationally representative sample of over 1,000 farms. Each farm is assigned a weighting factor so that the results of the survey are representative of the national population of farms. For this analysis, individual TAMS approvals up to end 2016 were matched with the most recent NFS data available (Teagasc, 2015).

TAMS approvals were used to establish the baseline position of TAMS and non-TAMS participants captured in the NFS. In future, the baseline position of TAMS and non-TAMS participants can be monitored to assess progress in achieving the stated objectives (improving competitiveness, generational renewal, reduce emissions etc.). Approvals under TAMS were used instead of payments due to the low level of payments made under TAMS to end 2016. Matching payment data with 2015 NFS data would have resulted

in small sample with limited statistical significance.

53 farms within the Teagasc NFS sample were matched as having been approved under TAMS II which equates to over 2,600 farms when the weighting factors are assigned and represents 3% of the total population of farms within the NFS. The majority of the matched farms were in the dairy sector; this is in line with data collected on TAMS beneficiaries which shows that 70% of payments were claimed by dairy farms.

Competitiveness and other indicators

The indicators examined below will be monitored over the entire programme period allowing an assessment of the impact of TAMS investments on their stated objectives under competitiveness, generational renewal, nutrient management and emissions. The 2015 data utilised in this analysis relates to a period of time before any TAMS investments would have taken place and as a result the figures below can be considered as a baseline position of TAMS participants and non-TAMS participants.

1. Competitiveness: Gross Output per Annual Work Unit (a complimentary result indicator), gross output (€) per hectare of utilised agricultural area (UAA) and family farm income will be used to assess progress in improving competitiveness.
2. Generational Renewal: The age profile of farmers under TAMS will be used to assess generational renewable and the extent that farms are demographically non-viable (farmer is aged over 60, and there are no members of the farm household younger than 45).
3. Nutrient management: The nitrogen balance indicator will be used to assess the potential magnitude of nitrogen surplus which may result in nutrient losses to water bodies.
4. Emissions: the average Green House Gas emissions per hectare indicator is used to assess progress in reducing GHG emissions.

The indicator values for TAMS and non-TAMS participants will be monitored every year using the NFS data and the 'net' effect of the RDP intervention will be quantified.

7.d4) Quantitative values of indicators and data sources

Indicator type	Indicator code and name (unit)	Ratio	Indicator value	Calculated gross value	Calculated gross value out of which Primary contribution	Calculated gross value out of which Secondary contribution, including LEADER/CLLD contribution	Calculated net value	Data and information sources
Common result indicator	R2: Change in Agricultural output on supported farms/AWU (Annual Work Unit) (focus area 2A)*	No						

Common result indicator	R2: Change in Agricultural output on supported farms (focus area 2A)*	No						
Common result indicator	R2: AWU (Annual Work Unit) (focus area 2A)	No						
Common result indicator	R1 / T4: percentage of agricultural holdings with RDP support for investments in restructuring or modernisation (focus area 2A)	No						
Additional result indicator	Economic farm size structure of supported farms	No						

7.d5) Problems encountered influencing the validity and reliability of evaluation findings

Collaborative farming - problems encountered influencing the validity and reliability of evaluation findings

The composition of CFGS beneficiaries which comprised larger farms mainly within the dairy sector has contributed to a higher Gross Output per AWU and Family Farm Income values for farms captured within the Teagasc NFS data. For instance, data from the 2015 Teagasc NFS report shows that the average gross output on all dairy farms was €180,000, 125% higher than the average farm within the survey. Comparing farms within the CFGS to those outside the scheme is therefore an unsuitable comparison.

TAMS II - problems encountered influencing the validity and reliability of evaluation findings

1. Low uptake in terms of TAMS II participants completing their investment and receiving payment. As a result, NFS data could not be matched with applicants who had received a TAMS II payment.
2. Teagasc NFS data had to be matched with TAMS beneficiaries across the overall TAMS scheme i.e. not at individual TAMS strand.
3. As a result, it was not possible to establish suitable control groups within the non-TAMS farms.
4. Neither NFS data nor the indicator data collected provided sufficient data on farm risk prevention and management related to animal welfare and farm safety investments and energy efficiency in the pig and poultry sectors.

7.d6) Answer to evaluation question

Collaborative farming scheme and competitiveness

Gross output per annual work unit, Gross output per hectare of utilised agricultural area (UAA) and Family farm income are used to analyse the competitiveness/economic performance of farms supported under the CFGS.

Gross Output per Annual Work Unit

The change in agricultural output on supported farms per Annual Work Unit (AWU) is a complimentary result indicator which is required for RDP evaluation. Gross output for the farm is calculated as total sales, less purchases of livestock, plus the value of farm produce used in the house, plus receipts for hire work, services, fees etc. It also includes net change in inventory. All non-capital grants, subsidies and premiums are also included. Annual Work Unit is the total labour input of a farm including family and unpaid labour as well as paid labour.

The Gross Output per AWU indicator intends to capture the increase in competitiveness on farms receiving RDP support. This can be achieved either through increasing output for the same use of resources, or maintaining output levels but reducing the resources required to produce them. Labour is used as the resource unit for comparison because it is often the key variable within farming systems and is closely linked to providing adequate household income. For example reducing the farm labour requirement can free labour for off-farm employment or diversification.

The evidence shows that CFGS beneficiaries had a higher average gross output per AWU than non-beneficiaries in 2015. The data suggests that CFGS beneficiaries are more productive, in terms of producing more output, than non-beneficiaries for the same level of resources. The composition of CFGS beneficiaries would also contribute to a higher Gross Output per AWU. Data from the 2015 Teagasc NFS report shows that the average gross output on all dairy farms was €180,000, 125% higher than the average farm within the survey.

Gross output (€) per hectare of utilised agricultural area

Gross output (€) per hectare of utilised agricultural area is a useful measure of the economic productivity of land. Utilised Agricultural Area (UAA) is the area under crops and pasture plus the area (unadjusted) of rough grazing. It is the total area owned, plus area rented, minus area let, minus area under remainder of farm.

The average gross output per hectare of UAA of farms within the CFGS was €2,652, 57% higher than non-beneficiaries of the scheme. Again this can be attributed the fact that the dairy sector accounts for 83% of CFGS beneficiaries within the Teagasc NFS.

Family Farm Income

Family Farm Income is calculated by taking total net expenses from the gross output of the farm. It represents the return on all labour, management and capital investment on the farm. Farms paid under the CFGS have an average family farm income of €56,784. The prevalence of dairy farms is also a factor on the farm income estimate. Dairy farms have been consistently the most profitable farms and recorded an average Family Farm Income of €62,141 in 2015.

TAMS II and competitiveness

Gross Output per Annual Work Unit

The evidence shows that TAMS participants had a higher average gross output per AWU than non-participants in 2015. These figures suggest that TAMS participants are more productive, in terms of producing more output, than non-TAMS participants for the same level of resources. The composition of TAMS participants which comprised larger farms mainly within the dairy sector would also contribute to a higher Gross Output per AWU.

Any investments supported under the Animal Housing, Organic Capital Investment and Dairy Equipment schemes within TAMS II are expected to contribute to further increasing the value of Gross Output per Annual Work Unit for TAMS participants over the duration of the RDP and for a number of years thereafter.

Gross output (€) per hectare of utilised agricultural area

Baseline 2015 data shows that the average Gross Output per hectare is 76% higher for TAMS II participants than for those outside the scheme. Again this is due to the larger number of TAMS participants that are dairy farmers who tend to have higher gross output than other farm systems. Data from the 2015 Teagasc NFS report[1] shows that the average gross output on all dairy farms was €180,000, 125% higher than the average farm within the survey.

Investments aimed at improving competitiveness and productivity of the land are expected to increase the average Gross Output per hectare of UAA. The increase would be achieved either by increasing output for the same amount of land, or maintaining output levels but reducing the amount of land required to produce them. Any investments supported under the Animal Housing, Organic Capital Investment and Dairy Equipment schemes within TAMS II are expected to contribute to further increasing the value of Gross Output per hectare of UAA for TAMS beneficiaries

[1] <https://www.teagasc.ie/media/website/publications/2016/Income-Estimates-2015.pdf>

Family Farm Income

Farms participating in TAMS II have a family farm income of €72,787. This is also consistent with earlier findings, as TAMS participants are mainly within the dairy sector and in turn have higher output levels than other farm systems. Dairy farms have been consistently the most profitable farms over the last number of years and recorded an average Family Farm Income of €62,141 in 2015.

Investments under the Animal Housing, Organic Capital Investment and Dairy Equipment strands that increase output levels or reduce total farm expenses, while other factors remain constant, will improve competitiveness and increase Family Farm Incomes amongst TAMS II participants.

7.d7) Conclusions and recommendations

7.d7.a) Conclusion / Recommendation 1

Conclusion:

Collaborative Farming - conclusions

The analysis of Teagasc NFS data shows that, on average, CFGS beneficiaries are more productive and profitable than non-CFGS beneficiaries. Family farm income and both measures of Gross Output are significantly higher for CFGS beneficiaries than non-CFGS beneficiaries.

Data on the age profile and viability of CFGS beneficiaries shows that the scheme is targeting farms that can support all those involved in a partnership and will therefore contribute to generational renewal on Irish farms. However research on supporting succession and inheritance through farm partnerships shows that the CFGS provides only a minor incentive as it alleviates some costs associated with forming a partnership.

Recommendation:

Collaborative Farming - recommendations

1. Data on the movement in profit sharing ratio and increased yields / volumes of farms with in the CFGS should be collected by DAFM.
2. Future analysis of the CFGS using Teagasc NFS data should establish suitable control groups taking into account the farm type.

7.d7.b) Conclusion / Recommendation 2

Conclusion:

TAMS II - conclusions

Data is based on approvals due to the low number of payments made under TAMS II to date. The impacts of the scheme can only be examined properly once a significant number of investments are completed and payments have been made to farmers.

Results from a phone survey carried out on those that had investments approved under the TAMS II but have not yet carried out this investment show that 88% of applicants will carry out their investment with 70% of these planning to complete the investment within 1 year. This shows that expenditure under TAMS II is likely to increase substantially over the next period.

The analysis of Teagasc NFS data shows that on average, TAMS participants are more productive and profitable than non-TAMS participants. Family farm income and both measures of Gross Output are significantly higher for TAMS participants than non-TAMS participants. The requirement to have matching funding to access grant aid may be impacting on the type of farmers applying for TAMS grants and

ultimately those being approved into the scheme.

Due to their greater size and productivity levels, TAMS participant farms are bigger contributors of GHG emissions and have larger nitrogen surpluses. Investment items available under the Low Emission Slurry Spreading Scheme (LESS) and the Farm Nutrient Storage strand along with other practices such as shorter slurry storage periods can significantly reduce emission levels and nitrogen surpluses on these farms.

Recommendation:

TAMS II - recommendations

1. As more payment data becomes available, Teagasc NFS data should be matched with TAMS beneficiaries i.e. those where the investment has been completed and payment has issued.
2. Teagasc NFS data should be matched with TAMS beneficiaries at a greater level of detail than the overall scheme i.e. analysis should be conducted at the TAMS strand level. This would enable future evaluations to accurately assess the impact of TAMS investments on achieving the objectives of the scheme. However, it may be difficult to report by TAMS strand in the first few years of the scheme if the number of completed investments is low.
3. Further analysis should be conducted to establish suitable control groups taking into account the farm type and other relevant characteristics.
4. An additional survey could be carried out (as a supplement to the annual National Farm Survey) to address the areas currently not covered by NFS, or collected by the TAMS application process (indicator data). This should include questions on farm risk prevention and management related to animal welfare and farm safety investments and energy efficiency in the pig and poultry sectors.

7.e) CEQ05-2B - To what extent have RDP interventions supported the entry of adequately skilled farmers into the agricultural sector and in particular, generational renewal?

7.e1) List of measures contributing to the FA

Priority 2 of EU rural development policy is concerned with enhancing farm viability and competitiveness and promoting innovative farm technologies.

Focus Area (FA) 2B of the RDP is specifically concerned with facilitating the entry of adequately skilled farmers into the agricultural sectors and, in particular, generational renewal.

The following RDP measures and schemes are programmed as contributing to FA 2B:

Measure 4 - Targeted Agricultural Modernisation Scheme (TAMS II);

Measure 16 - General European Innovation Partnership (EIP) projects; &

Measure 16 - Collaborative Farming.

EIP projects were not evaluated because there were no payments to beneficiaries during the reporting period (i.e. 2014-2016). In addition to collaborative farming, the other supports to be examined are Young Farmers Capital Investment Scheme.

Collaborative farming is programmed primarily under FA 2A (25%) and 2B (75%). The young farmers scheme is likewise programmed under FA 2B with a budget of over €114m. The emphasis of evaluation under FA 2B on generational renewal.

Before considering in detail the evaluation methods and findings relating to these schemes, it is first necessary to outline their objectives and operation.

Collaborative Farming Grant Scheme (CFGS)

Collaborative approaches to farming include inter-farm arrangements, intra-farm arrangements, share farming and contract rearing. They can assist in addressing a range of infrastructural issues identified in the RDP preparatory analysis such as poor land availability and farm size, work/life balance issues, the development of skills sets and the knowledge base, and intergenerational transfer.

This sub-measure addresses a number of those issues and is specifically aimed at encouraging the formation of new farm partnerships by contributing to the legal, advisory and financial services costs incurred by farmers in the drawing up of their farm partnership agreement. Support is available for partnerships which are formed between family members and non-family members.

A Farm Partnership is where two or more persons in the agriculture sector, who hold their own separate herd numbers or who are individually registered for tax purposes and who possess the appropriate agriculture qualification or experience, pool resources and efforts in order to bring added value to their enterprises and in turn share the profits accruing. The partnership works on the basis of a mutually agreed and binding Farm Partnership Agreement.

TAMS II

The objective of TAMS II is to promote capital investment, competitiveness and sustainability in those sectors in which grant-aid is available. The standard rate of grant aid is 40% with a higher rate of 60% available to young farmers wishing to enter the sector or improve their farm holdings. A super ceiling investment of €80,000 per holding over the RDP lifetime is also in place for all TAMS schemes except one (Low Emission Slurry Spreading). Under the scheme €395m is provided for the following:

- Young Farmers Capital Investment Scheme (€114m);
- Dairy Equipment Scheme (€50m);
- Organic Capital Investment Scheme (€8m);
- Animal Welfare, Safety and Nutrient Storage Scheme (€170m);
- Low Emission Slurry Spreading (€10m); &
- Pig and Poultry Investment Scheme (€17m).

A Tillage Scheme providing €26m in support opened in March of 2017.

7.e2) Link between judgment criteria, common and additional result indicators used to answer the CEQ

Judgment criteria	Common result indicator	Additional result indicator
The share of adequately skilled young farmers in the agricultural sector has increased	R3 / T5: percentage of agricultural holdings with RDP supported business development plan/investments for young farmers (focus area 2B)	
Adequately skilled farmers have entered into the agricultural sector		Percentage of adequately skilled farmers in the agricultural sector of the RDP territory

7.e3) Methods applied

Collaborative farming - methods applied

A quantitative analysis using National Farm Survey (NFS) data to establish the baseline position of CFGS beneficiaries and non-beneficiaries. The relevant NFS indicators will be monitored over the entire programme period allowing an assessment of the impact of RDP interventions on their stated objectives under competitiveness and generational renewal. The 2015 data utilised in this analysis can be considered as a baseline position of beneficiaries and non-beneficiaries.

1. Competitiveness: Gross Output per Annual Work Unit (a complimentary result indicator), gross output (€) per hectare of utilised agricultural area (UAA) and family farm income will be used to assess progress in improving competitiveness.
2. Generational Renewal: The age profile of farmers will be used to assess generational renewal and the extent that farms are demographically non-viable (farmer is aged over 60, and there are no members of the farm household younger than 45).

The indicator values for beneficiaries and non-beneficiaries will be monitored every year using the NFS

data and the 'net' effect of the RDP intervention will be quantified. The results will be expressed in 'net' terms to include any indirect effects (deadweight loss, leverage, substitution, etc.) and to exclude any effects that cannot be attributed to the RDP intervention.

Relevant research using microsimulation modelling to analyse the effect of a range of policy incentives including the CFGS have on different farm partnerships in the dairy and beef sectors.

Findings

The CFGS is operated in six month tranches and is open to all farm partnerships that are entered on the Department's Register of Farm Partnerships which opened in April 2015. Three tranches opened in 2015-2016 with the first opening in July 2015, the second in January 2016 and the third opening in September 2016. Under the CFGS, all new farm partnerships are eligible to receive a contribution of up to 50% towards the legal, accounting and advisory costs involved in the setting up the partnership, up to a maximum of €2,500.

Baseline Analysis

Data on CFGS beneficiaries paid in 2015 and 2016 was matched to 2015 Teagasc NFS data in order to establish a baseline position of beneficiaries against non-beneficiaries and will be used to assess the progress in achieving the objectives of improving competitiveness / economic performance and generational renewal. It will be used to evaluate results of these farms against their counterfactual (i.e. to calculate the changes that would have occurred without the specific programme intervention) throughout the lifetime of the CGFS.

Following the matching exercise, just 13 farms within the Teagasc NFS were paid under the CFGS which equates to over 650 farms when the weighting factors are assigned. Tables 2 and 3 show that the majority of farms that have been paid under the CFGS are in the dairy sector.

TAMS II - methods applied

Qualitative survey of approved applicants to gather information on applicants' behaviour and their intention to carry out investments approved under TAMS II.

Quantitative analysis using National Farm Survey (NFS) data to establish the baseline position of TAMS II participants and non-participants before the investments are completed. The NFS data will be used to evaluate results of these farms against their counterfactual (i.e. to calculate the changes that would have occurred without the specific programme intervention) throughout the lifetime of TAMS II. It will also be used to assess the impacts and results of support under the scheme on participant farms each year.

Findings

Survey of approved applicants

A phone survey on a sample of 257 farms that had investments approved under the TAMS II but have not yet carried out this investment was conducted on behalf of DAFM. The purpose of the survey was to discover whether these farmers intend to carry out all, some or none of their approved investments and the reasons for delaying investment. The following results emerged from the survey.

- 88% of farms surveyed indicated that they intended to carry out their investment, while only 6% indicated that they did not intend to proceed with the investment.
- 42% of farms intend to carry out their improvement investment within 6 months, while a further 29% indicated that they will carry out the work within 1 year. This shows that expenditure under TAMS II is likely to increase substantially over the next period.
- 28% stated that 'a fall in income due to a change in the price of agricultural commodities' was the main reason why the planned investments under TAMS have not been carried out to date. Other reasons included those who were 'less optimistic about the future due to Brexit' (16%) and those who thought that bank interest rates were too high (13%). A further 11% stated that they could not get access to credit for the matching funding.
- An increase in farm efficiency is the main reason cited for applying for TAMS support, with only one third of farmers claiming that they would carry out the same level of investment without a grant.
- Borrowing from a bank/financial institution (54%) and own savings (33%) are the main sources used to access additional funds to complete the investments.

Baseline Analysis

The National Farm Survey (NFS) is conducted by Teagasc on an annual basis and is a random, nationally representative sample of over 1,000 farms. Each farm is assigned a weighting factor so that the results of the survey are representative of the national population of farms. For this analysis, individual TAMS approvals up to end 2016 were matched with the most recent NFS data available (Teagasc, 2015).

TAMS approvals were used to establish the baseline position of TAMS, and non-TAMS participants captured in the NFS. In future, the baseline position of TAMS and non TAMS participants can be monitored to assess progress in achieving the stated objectives (improving competitiveness, generational renewal, reduced emission etc.). Approvals under TAMS were used instead of payments due to the low level of payments made under TAMS to end 2016. Matching payment data with 2015 NFS data would have resulted in small sample with limited statistical significance.

Some 53 farms within the NFS sample were matched as having been approved under TAMS II which equates to over 2,600 farms when the weighting factors are assigned and represents 3% of the total population of farms within the NFS. The majority of the matched farms were in the dairy sector which is consistent with data collected on TAMS beneficiaries showing that 60.9% of payments were claimed by dairy farms.

Generational renewal and other indicators

The indicators examined below will be monitored over the entire programme period allowing an assessment of the impact of TAMS investments on their stated objectives under competitiveness, generational renewal, nutrient management and emissions. The 2015 data utilised in this analysis relates to a period of time before any TAMS investments would have taken place and as a result the figures below can be considered as a baseline position of TAMS participants and non-TAMS participants.

1. Generational Renewal: The age profile of farmers under TAMS will be used to assess generational renewal and the extent that farms are demographically non-viable (farmer is aged over 60 and there are no members of the farm household younger than 45).
2. Competitiveness: Gross Output per Annual Work Unit (a complimentary result indicator), gross output (€) per hectare of utilised agricultural area (UAA) and family farm income will be used to assess progress in improving competitiveness.
3. Nutrient management: The nitrogen balance indicator will be used to assess the potential magnitude

of nitrogen surplus which may result in nutrient losses to water bodies.

4. Emissions: The average Green House Gas emission per hectare indicator will be used to assess progress in reducing GHG emissions.

7.e4) Quantitative values of indicators and data sources

Indicator type	Indicator code and name (unit)	Ratio	Indicator value	Calculated gross value	Calculated net value	Data and information sources
Common result indicator	R3 / T5: percentage of agricultural holdings with RDP supported business development plan/investments for young farmers (focus area 2B)	No				
Additional result indicator	Percentage of adequately skilled farmers in the agricultural sector of the RDP territory	No				

7.e5) Problems encountered influencing the validity and reliability of evaluation findings

Collaborative farming - problems encountered influencing the validity and reliability of evaluation findings

The composition of CFGS beneficiaries which comprised of larger farms mainly within the dairy sector has contributed to a higher Gross Output per AWU and Family Farm Income values for farms captured within the NFS data. For instance, data from the 2015 Teagasc NFS report shows that the average gross output on all dairy farms was €180,000, 125% higher than the average farm within the survey. Comparing farms within the CFGS to those outside the scheme is therefore an unsuitable comparison.

TAMS II - problems encountered influencing the validity and reliability of evaluation findings

1. Low uptake in terms of TAMS II participants completing their investment and receiving payment. As a result, NFS data could not be matched with applicants who had received a payment under TAMS II.
2. Teagasc NFS data had to be matched with TAMS beneficiaries across the overall TAMS scheme i.e. not at individual TAMS strand.
3. Consequently, it was not possible to establish suitable control groups within the non-TAMS farms.
4. NFS data or the indicator data collected did not provide sufficient data on farm risk prevention and management related to animal welfare and farm safety investments and energy efficiency in the pig and

poultry sectors.

7.e6) Answer to evaluation question

Collaborative farming and generational renewal

The economic viability and age profile of farms paid under the CFGS is used to assess the impact of the scheme in supporting the entry of farmers and generational renewal.

Viability

The economic viability of a farm business is measured as a binary variable, where a farm is defined as viable if family labour is remunerated at a level greater than or equal to the agricultural minimum wage, and is also sufficient to provide an additional 5% return on non-land assets employed on the farm. The economic viability of a farm partnership is essential because if the farm cannot provide a sustainable income for all involved in the partnership, then the collaborative agreement is unlikely to take place. Therefore the viability of the farm is a key indicator to measure the likelihood of generational renewal. The evidence shows that 57% of CFGS beneficiaries are economically viable compared to 37% of non-beneficiaries.

Age Profile

Farms are defined as having a high age profile if the farmer is aged over 60, and there are no members of the farm household younger than 45. This indicator shows whether the farm is likely to be demographically viable.

Baseline data for 2015 shows that 93% of farms approved under CFGS do not have a high age profile compared to 79% of non-CFGS farms.

Leonard et al. (2017)[1] investigates potential Collaborative Farming Models and scenarios to support succession and inheritance in Ireland.

Hypothetical microsimulation modelling is used to analyse the effect of a range of policy incentives including the CFGS have on different farm partnerships in the dairy and beef sectors based on data collated from the DAFM Register of Farm Partnerships. The data shows the range of policies and motivations affecting the succession and inheritance decision. This allows for the comparison of outcomes, resulting in the most economically beneficial succession and inheritance scenarios becoming established.

The main findings from this research indicate that farm partnerships are to some extent a suitable means for expediting farm succession and inheritance. However, this statement comes with some caveats. The suitability of a partnership depends on the individual farm level situation and also on what expectations the farmer / successor has for a partnership. Based on the findings from this research, deciding to enter a partnership based solely on an economic rationale is best suited to dairy systems, while cattle rearing farms may have a propensity to focus on benefits such as the gradual transfer of control and increased leisure time afforded to partners. These wider non-economic benefits that could potentially be generated through farm partnerships, which could in turn bring a shift in mindset about the value of earlier farm transfer, require further research and wider dissemination of information on same. This is especially important in the case of farmers' operating systems where budgetary constraints are present. In terms of the Collaborative Farming Grant Scheme, the research shows that it provides a minor incentive as it alleviates some costs associated

with the setting up of a partnership but it found that this may not be a sufficient incentive to enter a collaborative arrangement.

[1] Leonard et al. (2017) The Potential of Farm Partnerships to Facilitate Farm Succession and Inheritance; International Journal of Agricultural Management, Volume 6 Issue 1

TAMS II and generational renewal

High Age Profile

Farms are defined as having a high age profile if the farmer is aged over 60, and there are no members of the farm household younger than 45. This indicator shows whether the farm is likely to be demographically viable.

Baseline data for 2015 shows that 94% of farms approved under TAMS II have a non-high age profile which may be attributed to the targeted support of younger farmers through the Young Farmer Capital Investment Scheme and the associated 60% top-up grant rate. These farms are already highly productive and profitable compared to those outside the scheme, so this shows that a conscious effort is being made to improve the performance of these farms for future generations which will contribute to the promotion of generational renewal.

7.e7) Conclusions and recommendations

7.e7.a) Conclusion / Recommendation 1

Conclusion:

Collaborative Farming - conclusions

Analysis of NFS data shows that, on average, CFGS beneficiaries are more productive and profitable than non-CFGS beneficiaries. Family farm income and both measures of Gross Output are significantly higher for CFGS beneficiaries than for non-CFGS beneficiaries.

Data on the age profile and viability of CFGS beneficiaries shows that the scheme is targeting farms that can support all those involved in a partnership and will therefore contribute to generational renewal on Irish farms. However, research on supporting succession and inheritance through farm partnerships shows that the CFGS provides only a minor incentive as it alleviates some costs associated with setting up partnership

Recommendation:

Collaborative Farming - recommendations

1. Data on movement in profit-sharing ratio and increased yields/volumes of farms within the CFGS should be collected by DAFM.
2. Future analysis of the CFGS using Teagasc NFS data should establish suitable control groups taking into account the farm type.

7.e7.b) Conclusion / Recommendation 2

Conclusion:

TAMS II - conclusions

Data is based on approvals due to the low number of payments made under TAMS II to date. The impacts of the scheme can only be examined properly once a significant number of investments are completed and payments have been made to farmers.

Results from a phone survey carried out on those that had investments approved under the TAMS II but have not yet carried out this investment show that 88% of applicants will carry out their investment with 70% of these planning to complete the investment within 1 year. This shows that expenditure under TAMS II is likely to increase substantially over the next period.

The analysis of Teagasc National Farm Survey Data shows that on average, TAMS participants are more productive and profitable than non-TAMS participants. Family farm income and both measures of Gross Output are significantly higher for TAMS participants than non-TAMS participants. The requirement to have matching funding to access grant aid may be impacting on the type of farmers applying for TAMS grants and ultimately those being approved into the scheme.

Due to their greater size and productivity levels TAMS participant farms are bigger contributors of GHG emissions and have larger nitrogen surpluses. Investment items available under the Low Emission Slurry Spreading Scheme (LESS) and the Farm Nutrient Storage strand along with other practices such as shorter storage periods of slurry can significantly reduce emission levels and nitrogen surpluses on these farms.

Recommendation:

TAMS II - recommendations

1. As more payment data becomes available, Teagasc NFS data should be matched with TAMS beneficiary holdings, i.e. those where the investment has been completed and payment has issued.
2. Teagasc NFS data should be matched with TAMS beneficiaries at a greater level of detail than the overall scheme, i.e. analysis should be conducted at the TAMS strand level. This would enable future evaluations to accurately assess the impact of TAMS investments on achieving the objectives of the scheme. However, it may be difficult to report by TAMS strand in the first few years of the scheme if there is a low number of completed investments.
3. Further analysis should be conducted to establish suitable control groups taking into account the farm

type and other relevant characteristics.

4. An additional survey could be carried out (as a supplement to the annual National Farm Survey) to address the areas currently not covered by NFS, or collected by the TAMS application process (indicator data). This should include questions on farm risk prevention and management related to animal welfare and farm safety investments and energy efficiency in the pig and poultry sectors.

7.f) CEQ06-3A - To what extent have RDP interventions contributed to improving the competitiveness of supported primary producers by better integrating them into the agri-food chain through quality schemes, adding value to the agricultural products, promoting local markets and short supply circuits, producer groups and inter-branch organization?

7.f1) List of measures contributing to the FA

Priority 3 of EU rural development policy is concerned with promoting food chain organisation, including the processing and marketing of agricultural products, animal welfare and risk management in agriculture.

Focus Area (FA) 3A of the RDP is specifically concerned with improving the competitiveness of primary producers by better integrating them into the agri-food chain through quality schemes, adding value to agricultural products, promotion in local markets and short supply circuits, producer groups and inter-branch organisations.

The measures contributing to FA 3A are:

Measure 2 - Support for Beef Producer Organisations;

Measure 14 - Animal Welfare (Sheep) Scheme; &

Measure 16 - General European Innovation Partnership (EIP) projects.

These schemes were either not operational or not paid during the reporting period (2014-2016). Accordingly, these schemes were not analysed as part of the current round of Programme evaluation.

7.f2) Link between judgment criteria, common and additional result indicators used to answer the CEQ

Judgment criteria	Common result indicator	Additional result indicator
Implementation of quality schemes by primary producers has increased	R4 / T6: percentage of agricultural holdings receiving support for participating in quality schemes, local markets and short supply circuits, and producer groups/organisations (focus area 3A)	
Participation of primary producers in short circuit schemes, quality-oriented producer group and/or interbranch organization has increased	R4 / T6: percentage of agricultural holdings receiving support for participating in quality schemes, local markets and short supply circuits, and producer groups/organisations (focus area 3A)	
Competitiveness of supported primary producers has improved		Agricultural output on supported farms
The share of the final price of agriculture products retained with primary producers has increased		Margin of primary producers in the final price of agricultural products
The added value of agricultural products of primary producers has increased		

7.f3) Methods applied

N/A.

7.f4) Quantitative values of indicators and data sources

Indicator type	Indicator code and name (unit)	Ratio	Indicator value	Calculated gross value	Calculated net value	Data and information sources
Common result indicator	R4 / T6: percentage of agricultural holdings receiving support for participating in quality schemes, local markets and short supply circuits, and producer groups/organisations (focus area 3A)	No				
Additional result indicator	Margin of primary producers in the final price of agricultural products	No				
Additional result indicator	Agricultural output on supported farms	No				

7.f5) Problems encountered influencing the validity and reliability of evaluation findings

N/A.

7.f6) Answer to evaluation question

N/A.

7.f7) Conclusions and recommendations

7.g) CEQ07-3B - To what extent have RDP interventions supported farm risk prevention and management?

7.g1) List of measures contributing to the FA

Priority 3 of EU rural development policy is concerned with promoting food chain organisation, including the processing and marketing of agricultural products, animal welfare, and risk management in agriculture.

Focus Area (FA) 3B of the RDP is specifically concerned with supporting farm risk prevention and management.

Of the schemes contributing to this FA, no payments were made in respect of KT Groups (Measure 1) or General European Innovation Partnership projects (Measure 16) during the years 2014 to 2016. This evaluation question will therefore be answered solely by reference to the Targeted Animal Health and Welfare Advisory Service under Measure 2.

Measure 2

Sub-measures 2.1 & 2.3 Targeted Advisory Service on Animal Health and Welfare (TASAHW) and a matching service funded under Measure 20 Technical Assistance.

Relevant Focus Areas and Common Evaluation Questions

- FA 1A - To what extent have RDP interventions supported innovation, cooperation and the development of the knowledge base in rural areas?
- FA 1C - To what extent have RDP interventions supported lifelong learning and vocational training in the agriculture and forestry sectors?
- FA 3B - To what extent have RDP interventions supported farm risk prevention and management?

Background to Sub-measure

The objective of the TASAHW scheme is to direct investment at a number of animal diseases in order to limit the adverse impact animal health and financial costs associated with these diseases. It involves the specialist training of practitioners/veterinarians to deliver an on-farm animal health and welfare advisory service. The advice is provided to individual farmers on request and targets diseases such as Bovine Viral Diarrhoea (BVD), Johne's disease (JD), Somatic Cell Count (SCC) and significant animal health issues in the pig sector.

There are two interconnected submeasures used to deliver the TASAHW service:

- Sub-measure 2.3 Animal Health & Welfare - Training for advisors
- Sub-measure 2.1 Animal Health & Welfare - On-farm advice

Under the service, DAFM pay veterinary practitioners for up to 3 hours of advice per farm visit. Only private veterinary practitioners (PVPs) who have undertaken TASAHW training, delivered under sub-measure 2.3, in relation to the relevant disease will be eligible to provide the service. Animal Health Ireland (AHI) was awarded the contract for setting up and organising a system to provide specialist advice to farmers in September 2015.

TASAHW service in 2015 & 2016

TASAHW focused on the delivery of an advisory service BVD and the training of PVPs under JD in 2015 and 2016. BVD is a highly contagious viral disease of cattle that can be spread directly by infected animals, or indirectly, for example by slurry and contaminated visitors/equipment. JD is an infectious condition of

cattle caused by the bacterium *Mycobacterium Avium* subspecies *Paratuberculosis* (Map). The disease progresses slowly and leads to increasingly severe damage to the lining of the gut. TASAHW training aims to increase the awareness of veterinary practitioners and enhance animal disease risk management and prevention on farms. Both these objectives are assessed through surveying participants at training events and monitoring the number of persistently infected BVD births and herds.

7.g2) Link between judgment criteria, common and additional result indicators used to answer the CEQ

Judgment criteria	Common result indicator	Additional result indicator
Participation of farms in risk prevention and management schemes has increased	R5 / T7: percentage of farms participating in risk management schemes (focus area 3B)	

7.g3) Methods applied

Targeted Animal Health and Welfare Advisort Service - methods applied

Trained PVPs were surveyed to gather feedback on their experience of scheme training events; the 419 PVPs who participated in the BVD training were surveyed along with 29 PVPs who attended JD training.

Hereunder is an analysis of common and additional indicator data on the TASAHW scheme collected by DAFM and AHI

BVD training

7 topics were covered under the BVD training. These included:

1. An introduction to TASAHW;
2. A BVD refresher (disease and national programme);
3. Diagnostics methods, laboratory listings and submission of samples;
4. Negative Herd Status;
5. Use of the Irish Cattle Breeding Federation (ICBF) website to access herd data;
6. Herd investigation and biosecurity review; &
7. Case studies.

Survey results indicated that 98% of PVPs who participated in the BVD training courses felt that the topics covered were relevant or very relevant.

Participants were asked to rank on scale of 1-7 (1= strongly disagree 7= strongly agree), on how strongly they felt the training added to their knowledge on each of the topics covered. All topics received an average ranking of over 5.7 with the *Use of the ICBF website to access herd data* topic scoring highest (average of 6.11). When asked if any improvements could be made to the delivery of the training, 5.7% of participants requested that more case studies be covered in any future training events.

JD training

As was the case with BVD training, participants of JD training events were asked to rank on a scale of 1-7 (1= strongly disagree 7= strongly agree), how strongly they felt the training added to their knowledge of the topics covered. 5 topics were covered under this element of training. These included:

1. An introduction to TASAHW;
2. A JD refresher on the pilot programme;
3. Diagnostic methods and laboratory testing;
4. Herd investigation; &
5. Case studies.

Participants ranked the topics in the JD training courses slightly lower than participants who attended the BVD training. Participants indicated that they would be interested in attending future training activities on Somatic Cell Count (SCC), Infectious Bovine Rhinotracheitis (IBR) and Antimicrobial Resistance.

7.g4) Quantitative values of indicators and data sources

Indicator type	Indicator code and name (unit)	Ratio	Indicator value	Calculated gross value	Calculated net value	Data and information sources
Common result indicator	R5 / T7: percentage of farms participating in risk management schemes (focus area 3B)	No				

7.g5) Problems encountered influencing the validity and reliability of evaluation findings

N/A.

TASAHW - findings

Training for Advisors

Herd owners may submit a request to Animal Health Ireland (AHI) for an advisory visit and herds that have one or more positive or inconclusive results for the Bovine Viral Diarrhoea (BVD) virus in 2016 are eligible for an investigation. Only veterinary practitioners who have participated in the BVD training provided by AHI are eligible to provide this service. AHI maintains a list of trained veterinary practitioners which is available to herd owners. AHI has developed a portal on its website to inform trained practitioners of requests for the service and to allow them to manage these requests. Training courses were free to attend and were available to veterinary practitioners registered with the Veterinary Council of Ireland. They also contributed towards practitioner's Continuing Veterinary Education (CVE) points.

BVD training events for private veterinary practitioners (PVPs) began in 2015. 11 events were held nationwide with a total of 117 PVPs trained to deliver herd investigations. A further 25 BVD training events were delivered by AHI in the first quarter of 2016 with 423 PVPs trained. Each event lasted 4 hours with a morning and afternoon session held at each location.

By the end of 2016, a total of 1,548 BVD herd investigations had been requested by farmers. 1,088 of these investigations were completed by trained PVPs in 2016 with the remaining investigations completed in 2017.

A Persistently Infected (PI) calf is one that is born infected with BVD virus and is a lifelong carrier and shedder of the virus. All herds with such calves born in 2017 are required to undergo an investigation delivered by an approved PVP, within 3 months of the date of the first positive result.

27 Johne's Disease (JD) training events were held in the 3rd quarter of 2016 across 14 different locations with 346 PVPs attending; an average of 12 per event. In addition, AHI also trained 22 Department Veterinary Inspectors in connection with the scheme.

The TASAHW Contribution to Supporting Farm Risk Prevention and Management through the Eradication of BVD

AHI commissioned the Scottish Agricultural Colleges (2011) to undertake a modeling study of losses due to Bovine Viral Diarrhoea (BVD). The study estimated annual losses in Ireland of at least €102 million per annum[1], consisting of €55m, €27m and €20m in the dairy, suckler and finishing sectors respectively. This is equivalent to an average of €48/year for every dairy cow and €30/year for every suckler cow. Further cost benefit analysis from studies carried out in Northern Ireland[2] shows that estimated greenhouse gas savings (CO₂ equivalent) arising from eradication of BVD in Ireland would be likely to be of the order of €26m annually, in addition to the €102m yearly saving identified above.

A reduction in the prevalence of PI calf births is an integral measure of the success of the TASAHW in eradicating BVD and achieving its objective under Focus Area 3B. Since the introduction of the TASAHW in 2015, the incidence of PI births has halved to 3,814 calves (0.17% of the total calves tested).

The TASAHW is one of a number of measures that have led to this reduction as a national BVD eradication programme has been developed by a cross-industry BVD Implementation Group led by AHI. The

programme had been operating on a voluntary basis in 2012 and, since 1 January 2013 it is compulsory, it is supported by legislation which:

- Requires testing of all new-born calves;
- Bans the sale of calves without negative PI results;
- Requires compulsory follow-up testing where PI's are infected; &
- Herd restriction notices (recently introduced) on non-disposal of PI's, including neighbour notifications where a herd owner retains a PI animal.

The incidence of the disease has fallen since the national eradication programme commenced from 0.7% in 2013 to 0.2% in 2016.

The national eradication programme, which includes the TASAHW under Measure 2 of the RDP, has resulted in over 64,500 (75%) of the 83,000 breeding herds now having acquired negative herd status (NHS) based on all animals in the herd having a known negative status and absence of a PI for at least 12 months. In 2016, 3.18% (2,600) of herds had one or more positive or inconclusive results which is a significant decrease from the 11.35% of herds in 2013. In total, 1,430 of these have availed the BVD on-farm advice offered through the TASAHW.

[1] Stott AW, Humphry RW, Gunn GJ, Higgins I, Hennessy T, O'Flaherty J, et al. (2012) Predicted costs and benefits of eradicating BVDV from Ireland. *Ir. Vet. J.* 2012; 65:12.

[2] Guelbenzu, M. and Graham, D.A. (2013). Booklet 28. Prevalence of BVD in Northern Ireland Suckler herds. <http://www.agrisearch.org/publications/farmerbooklets?task=document.viewdoc&id=70>

7.g7) Conclusions and recommendations

7.g7.a) Conclusion / Recommendation 1

Conclusion:

TASAHW - conclusions

The TASAHW aims to limit the animal health and financial costs associated with a number of specific diseases.

Surveys carried out on PVPs experiences of the training provided under TASHAW in 2016 show a clear increase in knowledge base of the sector on BVD and JD. 98% of PVPs that participated in the BVD training courses felt that the topics covered under the training were relevant or very relevant while 100% of participants felt that this was the case with the topics covered under JD training.

The TASAHW is one of a number of measures outlined in the national BVD eradication programme. Data from AHI shows that since the introduction of the TASAHW in 2015 the prevalence of PI births has halved to 3,814 calves (0.17% of the total calves tested).

Recommendation:

N/A.

7.h) CEQ08-4A - To what extent have RDP interventions supported the restoration, preservation and enhancement of biodiversity including in Natura 2000 areas, areas facing natural or other specific constraints and HNV farming, and the state of European landscape?

7.h1) List of measures contributing to the FA

Priority 4 of EU rural development policy is concerned with restoring, preserving and enhancing ecosystems related to agriculture and forestry. More specifically, Focus Area (FA) 4A of the RDP deals with restoring, preserving and enhancing biodiversity, including Natura 2000 areas, and in areas facing natural or other specific constraints and high nature value farming, as well as the state of European landscape.

Although other schemes under Measures 1, 2, and 4 also contribute to the objectives of this FA, the principal contributors are agri-environment-climate schemes, especially GLAS (under Measure 10), organic farming (under Measure 11) and support for areas facing natural or other constraints (under Measure 13). It should be noted too that the Traditional Farm Buildings Scheme linked to GLAS (under Measure 7) is programmed under FA 4A. All the following schemes contribute to a greater or lesser extent to the goal of restoring, preserving and enhancing ecosystems:

- GLAS Traditional Farm Buildings (GLAS TFB) - Sub-measure 7.6;
- The Green Low-Carbon Agri-Environment Scheme (GLAS) - Sub-measure 10.1;
- The Burren Programme - Sub-measure 10.1;
- The Organic Farming Scheme (OFS) - Sub-measures 11.1 & 11.2;
- Areas of Natural Constraints with specific support for offshore island farming (ANC) - Sub-measures 13.2 & 13.3.

The degree to which the above schemes are reported here reflects not only their relative size but also whether they contribute to other FAs which may allow for more detailed responses to associated evaluation questions. Evaluation of the OFS, for example, will be reported under other FA 4B.

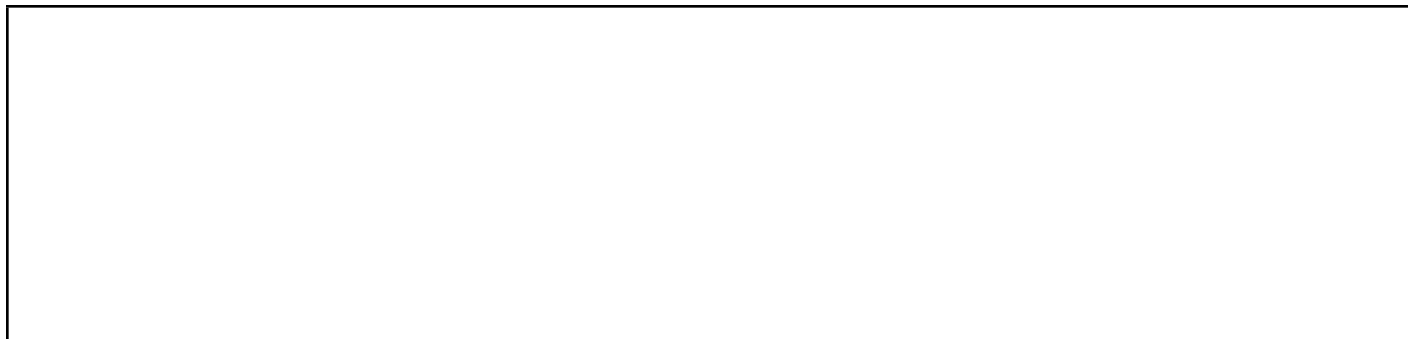
Owing to its significance in the overall Programme, some background information on GLAS is presented here to contextualise its evaluation for a general audience.

GLAS is a highly targeted scheme. Key to its design is the identification of a number of Priority Environmental Assets (PEAs) – primarily vulnerable landscapes (including Natura and uplands), species at risk (primarily endangered birds), and high-quality watercourses. It has a three-tier hierarchy as set out below.

Tier 1 is the most important Tier, comprising in Tier 1(a) all the Priority Environmental Assets identified for support through GLAS, targeting vulnerable landscapes, species at risk and protection of high-status watercourses. Tier 1(b) also identifies a series of Priority Environmental Actions for intensive farmers, targeting climate mitigation and farmland birds. Organic farmers also receive priority access to the scheme under Tier 1 in their own right.

Tier 2 is the next most important tier and focuses in Tier 2(a) on water-quality, through protection of predetermined vulnerable watercourses, while also accepting proposals under Tier 2(b) from other farmers who are prepared to take on predetermined actions again targeting climate change mitigation and supporting farmland birds.

Finally, Tier 3 is largely a feeder menu of complementary environmental actions for applicants approved into Tiers 1 and 2. It consists of actions such as the protection of traditional hay meadows, species-rich pastures, important landscape features like archaeological monuments, hedgerows and stone-walls.



7.h2) Link between judgment criteria, common and additional result indicators used to answer the CEQ

Judgment criteria	Common result indicator	Additional result indicator
Biodiversity on contracted land has been restored, preserved and enhanced	R6 / T8: percentage of forest/other wooded area under management contracts supporting biodiversity (focus area 4A)	
Biodiversity on contracted land has been restored, preserved and enhanced	R7 / T9: percentage of agricultural land under management contracts supporting biodiversity and/or landscapes (focus area 4A)	

7.h3) Methods applied

GLAS - methods applied

- A qualitative survey of GLAS beneficiaries to gather information on their motivations for joining GLAS as well as their experience with the scheme and the individual GLAS actions.

- FAs 4A, 4B, 5D and 5E – Preliminary results from a baseline summary evaluation report on the baseline monitoring output of 26 actions across FAs 4A, 4B, 5D and 5E under GLAS. These actions will be surveyed again in 2018 and 2020. For each of the actions, a set of measures of success was agreed. They have been derived directly from the specific management requirements for individual actions, and are intended to provide an overall indication of the success or otherwise of the action in relation to the individual parcel. These management requirements are themselves based on a knowledge of the individual ecology of the species or habitat. The measures are intended to be easily monitored and evaluated to facilitate comparison with future surveys at each sample parcel to assess extent of change with time and across the whole sample set to understand variations in findings.

- FAs 4C and 5D: Quantitative analysis using National Farm Survey (NFS) data to establish the baseline position of GLAS beneficiaries and non-beneficiaries. The NFS indicators will be monitored over the entire programme period allowing an assessment of the impact of RDP interventions on their stated objectives under nutrient management and emissions.
 1. Nutrient management: the nitrogen balance indicator will be used to assess the potential magnitude of nitrogen surplus which may result in nutrient losses to water bodies.
 2. Emissions: the average Green House Gas (GHG) emission per hectare indicator is used to

assess progress in reducing GHG emissions.

The NFS data will be used to evaluate results of these farms against their counterfactual (i.e. to calculate the changes that would have occurred without the specific programme intervention) throughout the lifetime of GLAS. It will also be used to assess the impacts and results of support under the scheme on participant farms each year.

- FAS 4B, 4C and 5D: A quantitative modelling exercise that evaluates the effect of GLAS on water quality and climate by estimating nutrient (nitrate and phosphorus) and sediment losses in runoff to rivers and lakes, and the emission of climate change gases (nitrous oxide and methane), and the consequential mitigation potential from the intervention of GLAS actions.

As the preliminary results of the baseline summary are most germane to this FA, they will be examined in greater detail here and other GLAS analyses will be considered in addressing relevant evaluation questions under Priority 4 and Priority 5 of the RDP.

The Burren Programme - methods applied

A comprehensive report[1] was compiled by the Burren Programme Team in March 2017 on the progress of the Tranche 1 farmers to date. In particular, the data generated from the I-1 scoring of 1,200 fields on 194 farms provides an important baseline against which the impact of the BP can ultimately be judged. The I-1 scoring data also offers a very interesting overview and insight into the 'environmental health' of farms in the Burren.

[1] The Burren Programme Report No. 1 1st April 2016 – 31st March 2017 (Burren Programme Team 2017)

Areas of natural constraint (ANC) - methods applied

An analysis of common and additional indicator data collected under the Area of Natural Constraints was conducted.

Data from the 2015 Teagasc National Farm Survey (NFS) was also used to establish a baseline position of ANC beneficiaries non-beneficiaries in 2015 over a range a number of socio-economic and environmental indicators.

The NFS indicators will be monitored over the entire programme period allowing an assessment of the impact of RDP interventions on their stated objectives under competitiveness, nutrient management and emissions. The 2015 data utilised in this analysis can be considered as a baseline position of ANC participants and non-ANC participants.

1. Competitiveness: Gross output (€) per hectare of utilised agricultural area (UAA) and family farm income will be used to assess progress in improving competitiveness.
2. Nutrient management: The nitrogen balance indicator will be used to assess the potential magnitude

of nitrogen surplus which may result in nutrient losses to water bodies.

3. Emissions: The average GHG emission per hectare indicator is used to assess progress in reducing GHG emissions.

The indicator values for ANC and non-ANC participants will be monitored every year using the NFS data and the 'net' effect of the RDP intervention will be quantified. The results will be expressed in 'net' terms to include any indirect effects (deadweight loss, leverage, substitution, etc.) and to exclude any effects that cannot be attributed to the RDP intervention.

GLAS Traditional Farm Buildings (GTFB) - methods applied

In order to further investigate the impacts of the GTFB, case studies examining the experience of three farms that received support under the GTFB are discussed in the published evaluation report. All information was provided by the beneficiaries and is a self-assessment of the main activities, outcomes and lessons learned from undertaking projects as part of the Traditional Farm Buildings measure.

7.h4) Quantitative values of indicators and data sources

Indicator type	Indicator code and name (unit)	Ratio	Indicator value	Calculated gross value	Calculated net value	Data and information sources
Common result indicator	R6 / T8: percentage of forest/other wooded area under management contracts supporting biodiversity (focus area 4A)	No				
Common result indicator	R7 / T9: percentage of agricultural land under management contracts supporting biodiversity and/or landscapes (focus area 4A)	No				

7.h5) Problems encountered influencing the validity and reliability of evaluation findings

GLAS - problems encountered influencing the validity and reliability of evaluation findings

The composition of GLAS beneficiaries which is comprised of a lower proportion of dairy farms has contributed to a lower nitrogen surplus and levels of GHG emissions for farms captured within the Teagasc NFS data. Comparing farms within the GLAS to those outside the scheme is therefore an unsuitable comparison.

GLAS TFB - problems encountered influencing the validity and reliability of evaluation findings

Secondary effects are not being fully captured. For example, the scheme will facilitate job creation (FA 6A) due to the labour intensive nature of the traditional techniques used in the restoration of buildings.

There is a lack of available data on the type of protected species and habitats supported under the GLAS TFB.

7.h6) Answer to evaluation question

GLAS - baseline analysis of actions under the GLAS agri-environment scheme

RSK ADAS Ltd (formerly ADAS UK Ltd) is undertaking, for the the Department, a longitudinal field survey analysis of GLAS scheme actions. The fieldwork began in 2016 with the baseline survey report due for completion shortly (i.e. by end of summer 2017).

The approach to monitoring has been designed to collect data that will inform measures of success for individual actions. For example, parameters such as sward height, species composition (e.g. how ‘rushy’ a sward is or to what extent a sward is unimproved, etc.) and the extent of scrub encroachment were important factors measured across a number of actions. Other measurement criteria used are specific to each action as requirements differ across the GLAS actions reflecting the different ecology of the target birds and other interventions.

In the case of the Chough action, for instance, it is widely recognised that this species requires a short, tightly grazed sward, with little scrub or bracken encroachment - these conditions allow the species to feed effectively. Therefore, the management requirements state:

- Produce a suitable sward by developing an appropriate grazing plan to maintain a tightly grazed short sward throughout the year on the areas within the GLAS contract; and
- Heather, bracken and scrub where present must be controlled, where appropriate, taking cognisance of other habitats and species that may exist onsite, but only between 1 September and 28 February annually.

So, in order to effectively gauge how well these management requirements have been met, measures of success have been selected on the basis of sward height and scrub encroachment (as well as other measures).

In the case of the Hen Harrier, a varied sward height across the parcel is deemed to be a measure of success because tussocky, unimproved ground provides ideal foraging opportunities for this species. To measure this criterion effectively, a number of height measurements throughout the parcel sward were collected (one per sampling point location, at 30 sample points). These were then assessed against a range of height categories devised to determine the variation in sward height.

Data collected for the Hen Harrier also included the number of small mammals and birds that provide an indicator of availability of prey while in the case of wild bird cover, the success or otherwise of the planted species designed to benefit wild birds was recorded (i.e. how well the cover had grown (height and cover) and how many individual species were present). The presence of droppings was used to measure the extent of Geese/Swans in a sward while the evidence of rush cutting was used as a measure of success in the breeding waders action as rushy habitat, where interspersed with more low-growing vegetation is optimal breeding habitat for a number of waders (e.g. Snipe, Lapwing, Redshank).

Surveyors also recorded the presence or absence of the target birds themselves (for the four species specific actions) and the total number of birds present for the Wild Bird Cover action. This provided a more explicit indication of the desired result of each action. This was included as a measure of success for the Wild Bird

Cover action, indicating the success of the ‘crop’ as a food resource for wintering wild birds. However, it was not included as a measure of success for the other actions as presence or absence of the target species could be reflective of many factors outside the scope of the management itself.

Initial findings from this analysis show that, in general, actions have been well targeted on a geographic basis across the sample parcels selected. The Hen Harrier parcels are in or close to Special Protection Areas established for this species, the Chough parcels are on the west coast and at the inland population in Leitrim and the Geese and Swans parcels are in known areas for wintering populations of light-bellied Brent Geese, Barnacle Geese, Greenland white-fronted Geese and Whooper Swan.

For the Chough action, sightings were recorded on or close to 17 of 30 targeted parcels. The majority of the parcels surveyed meet the both species and composition requirements under the Chough action, however only half the parcels had a suitable sward height to make it attractive to Chough.

Burren Programme - findings

There are three farm plan ‘structures’ within the Burren Programme: a 5-Year Farm Plan, an Intervention 1 (I-1) Score Sheet and an annual Intervention 2 (I-2) Work Programme. Owing to delays in the development of a Mapping and Planning System for the Programme, only I-1 Score Sheets could be developed in 2016. All 194 Tranche 1 farmers submitted I1 Score Sheets in 2016 and on the basis of these scores will receive payment in the region of €620,000, an average of almost €3,200 per farmer and almost €74 per assessable ha.

The total area covered by Tranche 1 farmers is 17,285ha (an average of 89ha per farm) of SAC and additional Annex 1 habitat. Of this, around 10,000ha (58.2%) has been claimed for payment under the Basic Payment Scheme.

The average I-1 score across the entire Burren Programme area assessed in 2016 was 7.21. An interesting difference was noted between the Average I-1 of 7.34 for the cohort of farms which had been a part of the Burren Farming for Conservation Programme (BFCP), as compared with an average I-1 score of 6.58 for more recent entrants to the Burren Programme. The difference highlights the improvement in condition of the BFCP cohort following six years of investment through the BFCP. For the subset of BFCP farmers (149 of them), it is notable that the I-1 score in 2016 (7.34) was slightly lower than in 2015 (7.37), the first year since the inception of the Burren Programme that such a decline occurred. This was most likely caused by a poor winter and the absence of any funding to undertake capital works.

The range of 2016 I-1 scores indicates that 7 and 8 are the most common scores, accounting for 51% of the total I-1 area. Of the total I-1 financial allocation, 90% was allocated for winterage fields, 6% for lowland grassland fields (these represented less than 4% of total I-1 area but are paid at a higher rate) and 4% for commonages. Diaggregating the range of scores by the number of farms per I-1 score band, shows that most farms have a baseline I-1 score of between 6 and 9. Sixteen farms have a baseline I-1 of below 5 while 6 have a baseline above 9. One farm was rated a perfect 10.

The report also compares Burren Programme I-1 data from 2016 with BFCP Measure 1 (M1)[1] data from 2010-2015, for the subset of farmers (n = 149) for whom such data is available. A gradual increase in M1 scores between 2010 and 2015 was not continued in 2016 as the overall I-1 score declined somewhat from 7.37 (2015) to 7.34 (2016). The reason for this small decline is, most likely, the combination of a very wet winter in 2015/16, an interruption in the BFCP/BP programme and difficulties with mapping and statutory permissions which delayed the capital works programme targeting control of scrub, bracken regrowth etc,

thereby negatively impacting on scores.

This finding, although preliminary, emphasises the significance of the hybrid nature of the Burren Programme. An exclusively results-based payments approach is not sufficient to address the challenges of the Burren as the prohibitive costs (and complications) of carrying out the capital works necessary to enable better site management mean that, in the absence of a capital fund for such actions, necessary actions would not be carried out and site condition would, most likely, not be sustained.

[1] The terms I-1 and M1 (Measure 1 in BFCP) score describe the same thing, I-1 being the updated terminology in the new programme.

ANC - data analysis

NFS Baseline analysis on the impact of the ANC on beneficiaries

Data from the 2015 Teagasc NFS was used to establish a baseline position of ANC beneficiaries and non-beneficiaries in 2015 over a range a number of socio-economic and environmental indicators. This will provide a baseline that will be used to monitor the performance of the ANC in achieving the objectives of supporting the restoration and preservation of areas facing natural or other specific constraints over the lifetime of the RDP. Data on gross output and family farm income from the NFS is used to measure the financial hardship faced by ANC beneficiaries while data on the nitrogen balance and GHG emissions is used to assess the environmental impact of farms that have been paid under the ANC in 2015.

Following the matching exercise, 637 farms within the Teagasc NFS were paid under the ANC which equates to over 63,000 farms when the weighting factors are assigned, representing approximately 75% of the total farms surveyed. The majority of farms paid under the ANC in 2015 are in the cattle and sheep sectors while less than 1% of payments were attributed to the tillage sector. A lower portion of farms receiving support under the ANC are in the dairy sector due to the low cost, high quality grass grazing system used on these farm systems which tends to lead to higher profitability.

Family Farm Income

Family Farm Income (FFI) is calculated by taking total net expenses from the gross output of the farm. It represents the return on all labour, management and capital investment. Factors of production owned by the farmer (e.g. family, labour and land) are not included as costs of production.

While income support for farmers is not a stated objective of the ANC, it is still important to examine income and indeed economic performance as secondary effects of the ANC. Central to the rationale underpinning the scheme is the fact that farm incomes are lower in disadvantaged areas arising from the natural handicaps of the land. Payments to compensate farmers for additional costs, and thus income foregone, relating to their land's handicap for agricultural production is the mechanism through which the scheme seeks to nudge the behaviour of beneficiaries.

Gross output (€) per hectare of utilised agricultural area

The evidence shows that the average gross output per hectare for ANC beneficiaries is 30% lower than for the average non-beneficiary. Support under the ANC thus contributes to improving the economic performance of beneficiaries as a secondary effect.

Teagasc data shows that the average farm income in 2015 is lower for beneficiaries of the ANC due to the natural handicaps of the land they are managing. While there are many external factors that influence farm income such as commodity price changes, it does nevertheless show that there is a significant income gap between ANC beneficiaries and non-beneficiaries.

GLAS TFB - findings

Many farm buildings and farmyards provide roosting sites for bats and nesting sites for birds that are protected by law. A bat / bird survey may be required to identify which species are present and how to carry out the works without adversely affecting them - for instance, altering the timing of the repair work or the material used. Up to 75% of the cost of the wildlife survey may be allowed in the grant allocation. To be eligible for the scheme, buildings and other related structure must be of architectural or vernacular heritage in character and contribute to their physical setting. Grants awarded cannot exceed 75% of the cost of the works with a maximum grant of €25,000 and a minimum grant of €4,000 available.

The first tranche of the GLAS Traditional Farm Buildings (GTFB) opened in April 2016 with a second tranche opening in November 2016. Over 500 applications were received under the first tranche and the first approvals of these applications began in July 2016. Over €700,000, 12% of planned expenditure was allocated to 48 farms in 2016 with 72 traditional buildings and 5 other related structures conserved. 75 protected species and 35 natural habitats were also found which demonstrates the commitment of beneficiaries to protecting and conserving existing biodiversity by ensuring these habitats were not destroyed during the renovation work.

7.h7) Conclusions and recommendations

7.h7.a) Conclusion / Recommendation 1

Conclusion:

GLAS - conclusions

Preliminary findings from a baseline field survey show that particularly plentiful sightings were evident for some bird actions i.e. Chough were recorded on or close to 17 of 30 targeted parcels. Moreover, 29 of the 30 targeted parcels for Wild Bird Cover had birds present with over 100 birds spotted on 4 individual parcels. Results for some other species actions were more mixed, mainly due to the paucity of individual species generally in Ireland as the habitat conditions appeared to be suitable on the majority of surveyed parcels. It is anticipated that habitat condition will improve over time from the baseline assessment period

Recommendation:

GLAS - recommendations

Further analysis should be conducted to establish suitable control groups taking into account the farm type and other relevant characteristics for the counterfactual analysis of GLAS beneficiaries using Teagasc NFS

Data.

7.h7.b) Conclusion / Recommendation 3

Conclusion:

Burren Programme - conclusions

Delays in developing a mapping and planning system meant that capital works were not carried out and this in turn led to slightly lower I-1 scores when comparing the Burren Programme under the RDP to the Burren Farming for Conservation Programme that pre-dated the RDP.

However, a solid baseline dataset of I-1 baseline data was established on most Tranche 1 farms in 2016 and over €228,000 in payments issued to farmers in the calendar year. Five new advisors were recruited and trained along with a second tranche of farmers.

Recommendation:

7.h7.c) Conclusion / Recommendation 4

Conclusion:

ANC - conclusions

Almost 30% of the planned expenditure under Measure 13 was allocated to support farms in these areas in 2016 and payments are issuing on an ongoing basis as beneficiaries meet the scheme eligibility requirements.

Those farming in designated disadvantaged areas face significant hardships caused by factors such as remoteness, difficult topography, climatic problems and poor soil conditions. 2015 Teagasc data shows that they also have lower farm productivity, profitability and income than farmers in other areas. Consequently, ANC beneficiaries have lower levels of GHG emissions and a lower Nitrogen surplus.

Recommendation:

7.h7.d) Conclusion / Recommendation 5

Conclusion:

GLAS TFB - conclusions

Over €700,000 was allocated to 48 farms under the GTFB measure in 2016. Work was carried out on 72 buildings and 5 other related structures while 75 protected species and 35 natural habitats found in those buildings were undisturbed during the restoration process.

Three case studies on beneficiaries were carried out to assess the type of work supported under the GTFB and the measures carried out to preserve biodiversity on those holdings.

Beneficiaries of the case studies stated that they would not have been able to carry out the restorations using traditional crafts and materials in the absence of the GTFB grant. A large portion of the original materials were retained in the restoration of the buildings identified in the case studies which reduces the amount of waste material created.

Two of the case studies examples found protected bat and bird species roosting and feeding within the buildings. Following a wildlife survey, building specifications were altered to ensure that protected species were unharmed during structural renovations.

A notable lesson learnt was to allow sufficient time to meet the requirements of a derogation licence when planning the project. Specific recommendations from the wildlife surveys state that any work to a building containing a bat roost should not take place in summer and that ideally the work should be done in late autumn or in spring. This delayed finishing work, such as painting and pointing, which are best carried out in favourable weather conditions.

Recommendation:

GLAS TFB - recommendations

1. Indicator data should be collected on the floor size (m²) of buildings restored as building floor sizes supported under the GLAS Traditional Farm Buildings (GTFB) to date ranges from approx. 20 to 200 square metres.
2. Traditional building crafts and methods used to restore Traditional Farm Buildings are more labour intensive than some modern techniques thus increasing the use of local professionals, contractors and material suppliers. Data should be collected to take account of the employment benefit in rural areas resulting from the restoration of buildings which will occur as a secondary effect of the scheme.
3. Data collected on the number of protected species and natural habitats should be used to provide a detailed breakdown of the type of habitats and species conserved through the restoration of these buildings in order to further assess the impact the measure on the enhancement of biodiversity.

7.i) CEQ09-4B - To what extent have RDP interventions supported the improvement of water management, including fertilizer and pesticide management?

7.i1) List of measures contributing to the FA

Priority 4 of EU rural development policy is concerned with restoring, preserving and enhancing ecosystems related to agriculture and forestry. More specifically, Focus Area (FA) 4B of the RDP is concerned with improving water management, including fertiliser and pesticide management.

In common with FA 4A and FA 4C, a large combination of measures - namely 1, 2, 4, 7, 10, 11, 12, 13 and 16 - contribute to some degree to this FA. Given that the answer to the previous evaluation question concentrated on those schemes exclusive to FA 4A - apart from GLAS - more attention will be devoted here to an evaluation of the Organic Farming Scheme (OFS) under Measure 11.

Relevant Focus Areas and Common Evaluation Questions

- FA 4A - to what extent have RDP interventions supported the restoration, preservation and enhancement of biodiversity including in Natura 2000 areas, areas facing natural or other specific constraints and HNV farming and the state of European landscape?
- FA 4B - to what extent have RDP interventions supported the improvement of water management, including fertilizer and pesticide management?
- FA 4C - to what extent have RDP interventions supported the prevention of soil erosion and improvement of soil management?

OFS - background

Organic farming is a system of farm management and food production that combines best environmental practice, a high level of biodiversity, the preservation of natural resources, the application of high animal welfare standards and a production method in line with the preference of certain consumers for products produced using natural substances and products.

The overall objective of the OFS is to deliver enhanced environmental and animal welfare benefits and to encourage producers to respond to market demand for organically produced food. It aims to encourage farmers to convert from conventional farming methods and to apply organic farming methods and maintain those methods after the initial period of conversion. Participants in the previous Organic Farming Scheme introduced under the 2007-2013 Programme whose contracts expire in 2016, 2017 and 2018 are also offered the opportunity to extend any existing contracts by up to four years.

The general structure and implementation/administration of the 2007-2013 Organic Farming Scheme is continued in the current programming period. This consists of an annual area-based payment over a maximum contract period of 5 years and 11 months but with increased payment per hectare and a reduced differential between the conversion and maintenance rates, along with some targeted incentives aimed at areas that are in deficit.

All first-time OFS applicants must complete an approved training course. The course includes a (National Framework of Qualifications) Level 5 Introduction to Organic Farming. The course is not a part of the OFS, nor is it funded through the RDP.



7.i2) Link between judgment criteria, common and additional result indicators used to answer the CEQ

Judgment criteria	Common result indicator	Additional result indicator
Water quality has improved	R8 / T10: percentage of agricultural land under management contracts to improve water management (focus area 4B)	
Water quality has improved	R9 / T11: percentage of forestry land under management contracts to improve water management (focus area 4B)	

7.i3) Methods applied

OFS - methods applied

An analysis of common and additional indicator data on the number of holdings and type of area supported under the Organic Farming Scheme was conducted. External research from a variety of sources is used to assess the environmental impact of the OFS.

7.i4) Quantitative values of indicators and data sources

Indicator type	Indicator code and name (unit)	Ratio	Indicator value	Calculated gross value	Calculated net value	Data and information sources
Common result indicator	R8 / T10: percentage of agricultural land under management contracts to improve water management (focus area 4B)	No				
Common result indicator	R9 / T11: percentage of forestry land under management contracts to improve water management (focus area 4B)	No				

7.i5) Problems encountered influencing the validity and reliability of evaluation findings

OFS - problems encountered influencing the validity and reliability of evaluation findings

Limited data availability for environmental indicators.

OFS - findings

Looking at the geographical spread of organic farms in Ireland in 2012 and 2017, the West and South West regions have a higher share of organic farms compared to the rest of the country. The number of producers receiving support under the OFS increased in every county apart from Wexford and Waterford over the 2012-2017 period with the largest percentage growth seen in Carlow (113%) and in the Border counties of Donegal (88%) and Cavan (83%).

1,300 (or 70%) of the farms within the OFS are in the cattle sector which will allow Ireland to meet any further increase in demand for organic beef in both domestic markets as well as increasing exports to meet demand in foreign markets. DAFM figures show that the number of cattle farms has increased by 40% from 2012 and the number of cattle in the OFS has increased by 43% from 2012 to 59,000. Over 9,000 cattle were slaughtered for the organic market in 2016 compared to 7,000 in 2012.

Suckler farmers are more likely to be organic and there 18,500 suckler cows within the OFS which is an increase of 36% from 2012. There are only 35 (1.9%) dairy producers in the OFS due mainly to the lack of organic milk processors and a buoyant conventional sector.

Relevant External Research

Ireland had the second fastest growing organic market globally in 2016. Figures from Kantar Worldpanel[1] show that the organic sector accounts for a total value of €142m of grocery sales in Ireland - an increase of 32.7% from 2012 (€107m).

Looking at the top ten most popular categories of organic food in Ireland for 2016, growth in retail sales is evident across all product categories with vegetables, fruit and yoghurts the largest categories. Although smaller in value terms, strong growth can be seen in the sales of organic beef in 2016.

Bord Bia research indicates that the majority of organic fruit and vegetable produce is imported and, in order to meet the domestic demand, increased support is provided to horticulture (including fruit) operations in the OFS. This currently represents 0.1% of total land in the OFS. A similar case exists in the tillage sector and initial figures show that area under organic tillage farming currently amounts to 1,524ha, 2.1% of total land under the OFS. Under the new OFS, higher rates are payable for horticultural operations (including fruit) and for tillage operations, which will encourage a greater proportion of organic land in these areas.

In the European Union, latest figures show that the market for organic food is worth €24 billion[1] and has doubled in size over the last 10 years. The largest markets are in Germany (€7.6 billion), France (€4.8 billion), the UK (€2.3 billion) and Italy (€2.1 billion). This growth represents an opportunity for Irish farmers to supply more organic food, especially organic beef. Bord Bia research shows that Ireland is self-sufficient in the production of organic beef for the domestic market but there is scope for substantially increased exports to meet demand in key EU markets.

Research by Clavin (2008)[2] indicated that organic farming delivers enhanced environmental benefits. It concluded that there are three significant areas where organic farming was found to deliver enhanced environmental benefits.

- There is a significant difference in pesticide use between conventional and organic farming: in terms of environmental impact, pesticides can impact on surface and ground water and on air and soil contamination. Pesticide use in organic farming is very restricted and synthetic pesticides are

completely banned.

- Soil conservation: soil care is expressed in higher levels of soil organic matter, the active promotion of soil organic matter, the active promotion of soil biological activity, more balanced nutrient cycles and in many cases enhanced soil structure.
- Biodiversity: enhanced biodiversity deemed to be delivered through enhanced richness of flora and fauna.

The low production of organic cereals and pulses is a major impediment to the development of the organic meat and dairy sectors as organic cattle and sheep must be fed exclusively on organic diets. Red clover grown on its own or, more usually, with a companion grass can provide a high protein feed source while also delivering for the environment as it converts atmospheric Nitrogen into a plant usable form. It is mainly used for silage production and although it is often grazed by cattle or sheep, continuous grazing reduces its yield and lifespan. The feeding value of red clover silage is higher than grass silage resulting in greater animal intakes and higher levels of animal performance in terms of milk and protein yields, and liveweight gain. Results from Teagasc Research[3] found that the mean liveweight gain in beef cattle fed on red clover silage was 1.04 kg/day compared to 0.59 kg/day for those fed on grass silage. A top-up payment of €30/ha is provided to incentivise the growing of red clover under the new OFS and to date 278 ha (0.4%) of land within the OFS is under red clover.

Given the environmental benefits and impacts of organic farming, the main challenge in the Irish context is attracting and converting farmers to organics. Laepple and Donnellan 2008 [4] surveyed 181 conventional dry stock farmers to gather the opinions and perceived problems of farmers on converting to organic farming. It found that farmers did not have strong opinions about organic farming. However, the results also suggested that farmers felt that they did not have a good level of knowledge about organic farming. Therefore, an increase in information mainly focused on promoting organic farming as an alternative to conventional farming could have a positive impact on the tendency for conversion. In addition to increasing the support rates in the new OFS, Teagasc in conjunction with DAFM have held 13 Organic Demonstration Farm Walks in 2015 and 2016 with a further 7 planned for 2017. These walks attracted an average of 105 people and offer both organic and conventional farmers the opportunity to learn first-hand about the practicalities of organic farming.

References

[1] <https://www.kantarworldpanel.com/grocery-market-share/ireland>

[2] <https://www.teagasc.ie/media/website/publications/2016/2016-Organic-Farms.pdf>

[3] 'Organic Farming versus Conventional Farming' (Clavin, 2008)

[4] 'Red clover – Agronomy and Management' (Conaghan 2016)

[5] 'Farmer attitudes towards converting to organic farming' (Laepple and Donnellan 2008)

7.i7) Conclusions and recommendations

7.i7.a) *Conclusion / Recommendation 1*

Conclusion:

OFS - conclusions

A record number of applications were received under the OFS bringing the total number of organic farmers to just over 1,800. This is a 38% increase on organic producers since 2012.

The OFS has now met all targets for the RDP period in terms of intake and area. The targets of 16,000 ha in conversion and 46,880 ha in maintenance were based on participants in both the present and previous schemes. The target for conversion has been exceeded by 50% and the target for maintenance has been exceeded by 2.4%.

Recommendation:

OFS - recommendations

Data should be collected on environmental indicators in order to assess the impact of support under the OFS and to fully address the associated Common Evaluation Questions. This can be done by matching OFS beneficiaries to Teagasc National Farm Survey data to monitor the progress of the nitrogen balance and greenhouse gas emissions on farms over the lifetime of the scheme.

7.j) CEQ10-4C - To what extent have RDP interventions supported the prevention of soil erosion and improvement of soil management?

7.j1) List of measures contributing to the FA

Priority 4 of EU rural development policy is concerned with restoring, preserving and enhancing ecosystems related to agriculture and forestry. More specifically, Focus Area (FA) 4C of the RDP is concerned with preventing soil erosion and improving soil management.

In common with FA 4A and FA 4B, a combination of measures - namely 1, 2, 4, 7, 10, 11, 12, 13 and 16 - contribute in some degree to this FA. Considering that a detailed description and appraisal of all these measures was provided in answering previous evaluation questions, notably those related to FA 4A and 4B, the emphasis here is on assessing the contribution of transitional measures to the achievement of RDP objectives. Transitional measures are ongoing commitments from the previous programming period that are being funded from the current Programme budget, particularly those related to Measures 4, 10 and 13 - this arrangement is a normal feature of Programme implementation to ensure measure continuity over different programming periods.

Transitional Measures - Background

This answer covers any expenditure from the 2014-2020 RDP that was used to support measures implemented under the 2007-2013 RDP. Funding for these old programme commitments (Measures 212, 213, 214 and 216) were exhausted by 1 January 2014 and the schemes were subsequently funded using transitional funds until the end of 2016. Other than for the Less Favoured Areas Scheme (LFAs), which is an annual scheme, no further new commitments were undertaken in 2014 for these measures; so only ongoing commitments were paid.

7.j2) Link between judgment criteria, common and additional result indicators used to answer the CEQ

Judgment criteria	Common result indicator	Additional result indicator
Soil management has improved	R10 / T12: percentage of agricultural land under management contracts to improve soil management and/or prevent soil erosion (focus area 4C)	
Soil management has improved	R11 / T13: percentage of forestry land under management contracts to improve soil management and/or prevent soil erosion (focus area 4C)	
Soil erosion has been prevented		Additional information on soil erosion of the land under management contracts.

7.j3) Methods applied

Transitional Measures - methods applied

Results from the ex-post evaluation of the 2007-2013 RDP, which was carried out in 2016, are used to assess the impacts of these measures.

[1]Indecon International Economic Consultants (2016) Ex-Post Evaluation of the Rural Development Programme Ireland (2007-2013)

7.j4) Quantitative values of indicators and data sources

Indicator type	Indicator code and name (unit)	Ratio	Indicator value	Calculated gross value	Calculated net value	Data and information sources
Common result indicator	R10 / T12: percentage of agricultural land under management contracts to improve soil management and/or prevent soil erosion (focus area 4C)	No				
Common result indicator	R11 / T13: percentage of forestry land under management contracts to improve soil management and/or prevent soil erosion (focus area 4C)	No				
Additional result indicator	Additional information on soil erosion of the land under management contracts.	No				

7.j5) Problems encountered influencing the validity and reliability of evaluation findings

N/A.

7.j6) Answer to evaluation question

Measure 1 - Rural Environment Protection Scheme 4 (REPS 4) Training

REPS 4 training was implemented under Measure 111 (Vocational Training) in Axis 1 of the 2007-2013 RDP and is currently assigned to Measure 1 under Priority 4 of the 2014-2020 RDP. The objective of REPS 4 training was to provide participants with information on environmental benefits arising from the agri-environment and Natura 2000 measures and to equip farmers with the knowledge and skills necessary to implement environment actions. Just under €60,000 was paid to 556 participants who completed training under REPS 4 in 2015. A sum of €483 was paid to seven participants in 2016 that had carried out their training in 2015.

Surveys were carried out on beneficiaries of this training and the findings suggested that this measure has significantly contributed to the growth in knowledge and skills available within the farming sector in Ireland. Over 83% of respondents who attended courses across schemes stated that this training/information was useful.

Measure 4 - AEOS Non-Productive Investments

AEOS Non-Productive Investments were implemented under Measure 216 of the 2007-2013 RDP. It aimed

to support non-productive investments, in order to achieve the commitments undertaken for the agri-environmental schemes. Non-productive investments are investments that do not lead to any significant increase in the value or profitability of the agricultural holding. Examples include:

- establishment and maintenance of habitats;
- tree planting and management;
- hedgerow planting; and
- provision of an alternative water source for bovines.

Actions classified under Measure 216 were integrated within REPS and AEOS and were funded under Measure 214. Support under AEOS Non Productive Investments has been allocated to Measure 4 under Priority 4 of the 2014-2020 RDP. A total of 12,500 holdings received over €14m for AEOS Non Productive Investments in the 2014 to 2016 period.

Measure 10 - The Rural Environment Protection Scheme (REPS) and the Agri-Environment Options Scheme (AEOS)

REPS and AEOS were agri-environmental measures implemented under Axis 2 of the 2007-2013 RDP.

REPS opened in 2007 and closed to new entrants in July 2009, although many of the farmers who were participating in REPS at the beginning of 2010 still had the majority of their five-year contracts to complete. The objectives of the measure were:

- To promote:
 - ways of using agricultural land which are compatible with the protection and improvement of the environment, biodiversity, the landscape and its features, climate change, natural resources, water quality, the soil and genetic diversity;
 - environmentally-favourable farming systems;
 - conservation of high nature value farmed environments that are under threat;
 - upkeep of historical features on agricultural land;
 - use of environmental planning in farming practice.
- To protect against land abandonment; and
- To sustain the social fabric in rural communities

AEOS was a further iteration of REPS but the opportunity that the closure of REPS created was used to design a scheme with a much more targeted environmental impact. The objectives of AEOS were to meet the challenges of preserving and promoting biodiversity, encouraging water management and water quality measures and, to a lesser extent, combating climate change. This scheme marked a significant switch away from the ‘whole farm’ approach adopted by its predecessor, REPS, to a more ‘targeted’ approach allowing farmers to select specific environmental options that were deemed as being most appropriate to their individual farms.

Both of these agri-environmental schemes have been allocated transitional funding under Priority 4 and Measure 10 of the 2014-2020 RDP. Support from the present Programme to REPS and AEOS amounted to €291 million over the 2014 to 2016 period with the number of holdings supported falling from 35,000 beneficiaries in 2014 to 5,600 in 2016 as contracts come to a close.

Indecon carried out a survey of beneficiaries under the REPS/AEOS schemes as part of an ex-post evaluation of the 2007-2013 RDP. It assessed the extent to which the scheme requirements impacted on the

way they farmed. Most farmers surveyed (70%) stated that the schemes had an impact on their farming methods. The survey also asked beneficiaries about the impact of the REPS/AEOS supports on various aspects of their farming enterprise. Some 87% suggested that the payments had had an impact on the viability of the farm, 94% felt that it had helped protect the environment, 77% felt that it had impacted on water management, while 77% felt that it had impacted on biodiversity on the farm.

Indecon also conducted a counterfactual econometric model to assess the impact of REPS and AEOS funding. The model suggests that REPS and AEOS grants increased output and productivity and this may have longer-term impacts on land abandonment. Results show that receipt of REPS/AEOS funding results in a 0.4% increase in farm productivity as well as 1.75% increase in output. An innovative mapping analysis was also undertaken and this showed that the distribution of REPS funding was focused on regions which contained the largest areas of environmental or ecological significance.

Measure 10 - Organic Farming Scheme

The Organic Farming Scheme (OFS) was an agri-environment measure implemented under Axis 2 of the 2007-2013 RDP. The current OFS is programmed under Measure 11 of the 2014-2020 RDP, transitional support, however, for the previous OFS is programmed under Measure 10. The specific objectives of the scheme are to encourage producers to respond to the market demand for organically produced food and to deliver enhanced environmental and animal welfare benefits.

€13.5 million has been spent under the old OFS as transitional funding from Measure 10. As the contract period for the old OFS expires, a significant proportion of farmers choose to remain within the system. In 2016, for instance, almost three quarters of farmers that finished in the old scheme applied to extend their organic contract under the new OFS.

Results from the ex-post evaluation of the 2007-2013 RDP indicated that the level of subsidy would appear to have been low in comparison with differences in production costs compared to conventional farming, the level of support for a number of supports provided under AEOS, and relative to the subsidy rates in other countries.

While it was not possible to put a monetary value on the various benefits that arise from organic farming, the information available supported the contention that the subsidy provided under the OFS may have been insufficient, and that organic produce was under-provided relative to a societal optimal level in the period under review. It was not surprising, therefore, that the level of uptake, and by extension the increase in area under organic farming to 55,000 ha, fell far short of its target of 220,000 ha. This has been addressed in the 2014-2020 RDP as there has been an increase in the rate of payment under the new OFS which contributed to attracting a record 942 applications into the first tranche of the scheme which opened in April 2015.

Measure 12 - Natura 2000

Natura 2000 sites are important ecological areas selected and designated by the National Parks and Wildlife Service (NPWS) of the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. These sites form part of a network of protected areas throughout the European Union. The network comprised of Special Protection Areas (SPAs) and Special Areas of Conservation (SACs).

The Natura 2000 measure was designed to support farmers in dealing with the conservation of natural

habitats and wild fauna and flora on Natura 2000 sites. Under the 2007-2013 RDP, this scheme was implemented under Axis 2 and its objective was to contribute to the effective environmental management of farmed Natura 2000 sites and river catchments in the implementation of the Birds Directive, the Habitats Directive and the Water Framework Directive. Natura 2000 is supported under Measure 12 and Priority 4 of the 2014-2020 RDP and almost €42m has been spent in the 2014-2016 period.

Measure 13 - Less Favoured Areas Scheme

The Less Favoured Areas (LFA) scheme was part of Measure 212 in the 2007-2013 RDP and is now implemented under Priority 4 and Measure 13 of the 2014-2020 RDP. The scheme contributes to maintaining the countryside by promoting sustainable farming systems on marginal land (so-called Natural Handicap/ Disadvantaged Areas) where farming activity may not be otherwise viable.

Ireland's 2014-2020 RDP was not approved until May 2015, so LFA payments of approx. €195 million to over 110,000 beneficiaries were made in 2014. A further €13 million was paid to almost 13,000 farmers in 2015 which saw the introduction of a new Areas of Natural Constraints (ANC) scheme. Around €261,000 was paid in 2016 to a small number of remaining beneficiaries of the LFA.

Findings from an ex-post evaluation of the 2007-2013 RDP indicated that the farms receiving LFA payments typically had lower value-added farm systems and lower family farm incomes than in the rest of the country. Land was generally of a much poorer quality which rendered full-scale commercial farming difficult or, in many regions, impossible. The high level of compliance (98.5%) with the terms of the scheme suggested that the maintenance of the countryside environment through farmland management was aligned with Programme requirements.

Evidence regarding the potential for land abandonment was mixed. In the absence of a counterfactual, it was not possible to definitively determine the likelihood of land abandonment without those supports. Such a counterfactual analysis was not feasible given that up to 75% of Irish agricultural land was eligible for scheme support.

The evidence from survey results of LFA beneficiaries suggests that the scheme was perceived as having positive impacts on viability and on environmental objectives. In particular, 78% of respondents felt that LFA payments had had an impact on the viability of the farm, 79% felt that it had helped protect the environment, 87% felt that it had impacted on water management, while a lower portion (57%) felt that it had impacted on farm biodiversity.

7.j7) Conclusions and recommendations

7.j7.a) *Conclusion / Recommendation 1*

Conclusion:

Recommendation:

7.k) CEQ11-5A - To what extent have RDP interventions contributed to increasing efficiency in water use by agriculture?

This question is marked as not relevant for this AIR version

No RDP measures were implemented and paid under this Focus Area.

7.l) CEQ12-5B - To what extent have RDP interventions contributed to increasing efficiency in energy use in agriculture and food processing?

7.11) List of measures contributing to the FA

Priority 5 of EU rural development policy is the promotion of resource efficiency and supporting the shift towards a low carbon and climate resilient economy in the agriculture, food and forestry sectors. Focus Area (FA) 5B of the RDP is specifically concerned with increasing energy efficiency in agriculture and food processing.

Two RDP schemes are relevant to this evaluation question: pig and poultry investments under TAMS II (Measure 4) and locally-led environmental / climate projects under Measure 16 (e.g. Hen Harrier / Freshwater Pearl Mussel projects). No payments were made in respect of locally-led projects during the years 2014, 2015 and 2016, Approximately €12,000 was paid in support of energy efficiency investments in the pig and poultry sectors during 2016. It was considered too early in the current programme cycle to conduct a worthwhile assessment of these schemes and they were accordingly excluded from the present evaluation exercise.

7.12) Link between judgment criteria, common and additional result indicators used to answer the CEQ

Judgment criteria	Common result indicator	Additional result indicator
Efficiency of energy use in agriculture and food processing has increased	R14: Increase in efficiency of energy use in agriculture and food-processing in RDP supported projects (focus area 5B)*	
Efficiency of energy use in agriculture and food processing has increased	T15: Total investment for energy efficiency (focus area 5B)	

7.13) Methods applied

N/A.

7.14) Quantitative values of indicators and data sources

Indicator type	Indicator code and name (unit)	Ratio	Indicator value	Calculated gross value	Calculated gross value out of which Primary contribution	Calculated gross value out of which Secondary contribution, including LEADER/CLLD contribution	Calculated net value	Data and information sources
Common result indicator	R14: Increase in efficiency of energy use in agriculture and food-processing in RDP	No						

	supported projects (focus area 5B)*							
Common result indicator	T15: Total investment for energy efficiency (focus area 5B)	No						

7.15) Problems encountered influencing the validity and reliability of evaluation findings

N/A.

7.16) Answer to evaluation question

N/A.

7.17) Conclusions and recommendations

7.m) CEQ13-5C - To what extent have RDP interventions contributed to the supply and use of renewable sources of energy, of by-products, wastes, residues and other non-food raw material for purposes of the bio-economy?

This question is marked as not relevant for this AIR version

No RDP measures were implemented and paid under this Focus Area.

7.n) CEQ14-5D - To what extent have RDP interventions contributed to reducing GHG and ammonia emissions from agriculture?

7.n1) List of measures contributing to the FA

Priority 5 of EU rural development policy is concerned with promoting resource efficiency and supporting the shift towards a low carbon and climate resilient economy in agriculture, food and forestry sectors. More specifically, Focus Area 5D of the RDP is concerned with reducing greenhouse gas (GHG) and ammonia emissions from agriculture.

While Measures 1, 2, 4 and 16 are programmed as contributing to this FA, the principal contributor is the Beef Data and Genomics Programme (BDGP). Because the other contributory schemes have already been assessed, where appropriate, in response to other evaluation questions, FA 5D interventions will be answered predominantly through an evaluation of the BDGP, which is entirely programmed under FA 5D, but will be supplemented by relevant GLAS and TAMS 2 analysis as appropriate. Total public expenditure on the BDGP during the period 2014 to 2016 amounted to approximately €80m compared to €0.8m on GLAS actions and €0.5m on TAMS II investments which are also programmed under the same FA.

Sub-measure 10.1 - BDGP

Relevant Focus Areas and Common Evaluation Questions

FA 5D: To what extent have RDP interventions contributed to reducing GHG and ammonia emissions from agriculture?

Background to Submeasure

The BDGP requires participating farmers to undertake a range of actions designed to deliver accelerated genetic improvement in the quality of the beef herd and, as a result, associated climate benefits. It aims to address widely acknowledged weaknesses in the maternal genetics of the Irish suckler herd, make a positive contribution to farmer profitability and reduce the GHG intensity of Ireland's beef production. The BDGP requires farmers to undertake a 6-year commitment to carry out a predefined set of actions designed to create a more climate friendly suckler herd. These actions include:

- record keeping and event recording;
- genotyping;
- a replacement strategy (that the animals identified as being of superior genetic merit, with lower associated GHG emissions, are then utilised as replacement stock on participating herds); and
- completion of the Carbon Navigator.

The objective of the scheme is to collect data on maternal traits of suckler cows from commercial farms to feed into a breeding index (which ranks the efficiency of animals on a star-based system, with 5 stars being the most efficient) which can inform farmers in selecting robust and resource efficient suckler cow replacements. Collecting data centrally across all farms and breeds increases the reliability of the index more rapidly than if these traits were selected by individual farmers or breed societies.

To further support the BDGP, the Knowledge Transfer and BDGP training submeasures under Measure 1 of the RDP allow BDGP beneficiaries to improve their understanding of genomics data collection and breeding selection.



7.n2) Link between judgment criteria, common and additional result indicators used to answer the CEQ

Judgment criteria	Common result indicator	Additional result indicator
GHG and ammonia emissions from agriculture has been reduced	R18: Reduced emissions of methane and nitrous oxide (focus area 5D)*	
GHG and ammonia emissions from agriculture has been reduced	R19: Reduced ammonia emissions (focus area 5D)*	
GHG and ammonia emissions from agriculture has been reduced	R16 / T17: percentage of LU concerned by investments in live-stock management in view of reducing GHG and/or ammonia emissions (focus area 5D)	
GHG and ammonia emissions from agriculture has been reduced	R17 / T18: percentage of agricultural land under management contracts targeting reduction of GHG and/or ammonia emissions (focus area 5D)	

7.n3) Methods applied

BDGP - methods applied

A detailed analysis of common and additional indicator data on a number of actions carried out under the BDGP to date.

External research is used to outline the predicted improvements in GHG emissions intensity expected from genetic progress that will arise from the BDGP and associated breeding strategies using the traits under the Irish Cattle Breeding Federation's (ICBF) Beef Maternal Replacement Index.

Quantitative analysis using National Farm Survey (NFS) data to establish the baseline position of BDGP participants and non-participants. The NFS data will be used to evaluate results of these farms against their counterfactual (i.e. to calculate the changes that would have occurred without the specific programme intervention) throughout the lifetime of the BDGP. It will also be used to assess the impacts and results of support under the scheme on participant farms each year.

It is intended that the BDGP will also be the subject of an independent focused mid-term evaluation as part of the ongoing monitoring and evaluation of the scheme.

It should be noted that the associated graphs and tables for this analysis can be found in the the full published RDP evaluation report available at the following link:

<https://www.agriculture.gov.ie/ruralenvironmentandsustainability/ruraldevelopmentprogrammerdp2014-2020/>

GLAS - methods applied

FAs 4A, 4B, 5D and 5E – Preliminary results from a summary evaluation report on the baseline monitoring output of 26 GLAS actions across Focus Areas 4A, 4B, 5D and 5E.. These actions will be surveyed again in advance of the 2019 AIR and the 2024 ex-post evaluation. For each of the actions, a set of measures of success was agreed. These were derived directly from the specific management requirements for individual actions and are intended to provide an overall indication of the success or otherwise of the action in relation to the individual parcel. These management requirements are themselves based on a knowledge of the individual ecology of the species or habitat. The measures are intended to be easily monitored and evaluated to facilitate comparison with future surveys at each sample parcel to assess the extent of change over time, and across the whole sample set to better understand variations in findings.

FAs 4C and 5D: Quantitative analysis using National Farm Survey (NFS) data to establish the baseline position of GLAS beneficiaries and non-beneficiaries. The NFS indicators will be monitored over the entire programme period allowing an assessment of the impact of RDP interventions on their stated objectives in relation to nutrient management and emissions.

- Nutrient management: The nitrogen balance indicator will be used to assess the potential magnitude of nitrogen surplus which may result in nutrient losses to water bodies.
- Emissions: The average GHG emission per hectare indicator is used to assess progress in reducing emissions.

The NFS data will be used to evaluate results on these farms against their counterfactual (i.e. to calculate the changes that would have occurred without the specific programme intervention) over the duration of GLAS. It will also be used to assess the impacts and results of support under the scheme on participant farms each year.

FAs 4B,4C and 5D: A quantitative modelling exercise was employed to evaluate the effect of GLAS on water quality and climate by estimating nutrient (nitrate and phosphorus) and sediment losses in runoff to rivers and lakes, and the emission of climate change gases (nitrous oxide and methane), and the consequential mitigation potential from the intervention of GLAS actions.

TAMS II - methods applied

Quantitative analysis using NFS data to establish the baseline position of TAMS II participants and non-participants before the investments are completed. The NFS data will be used to evaluate results of these farms against their counterfactual (i.e. to calculate the changes that would have occurred without the specific programme intervention) throughout the lifetime of TAMS II. It will also be used to assess the impacts and results of support under the scheme on participant farms each year.



7.n4) Quantitative values of indicators and data sources

Indicator type	Indicator code and name (unit)	Ratio	Indicator value	Calculated gross value	Calculated gross value out of which Primary contribution	Calculated gross value out of which Secondary contribution, including LEADER/CLLD contribution	Calculated net value	Data and information sources
Common result indicator	R18: Reduced emissions of methane and nitrous oxide (focus area 5D)*	No						
Common result indicator	R19: Reduced ammonia emissions (focus area 5D)*	No						
Common result indicator	R16 / T17: percentage of LU concerned by investments in live-stock management in view of reducing GHG and/or ammonia emissions (focus area 5D)	No						
Common result indicator	R17 / T18: percentage of agricultural land under management contracts targeting reduction of GHG and/or ammonia emissions (focus area 5D)	No						

7.n5) Problems encountered influencing the validity and reliability of evaluation findings

<p>TAMS II - problems encountered influencing the validity and reliability of evaluation findings</p> <ol style="list-style-type: none"> 1. Low uptake in terms of TAMS II participants completing their investment and receiving payment. As a result, NFS data could not be matched with applicants who had received a payment under TAMS II. 2. Teagasc NFS data had to be matched with TAMS beneficiaries across the overall TAMS scheme i.e. not at individual TAMS strand. 3. As a result, it was not possible to establish suitable control groups within the non-TAMS farms. 4. Neither NFS data or the indicator data collected provided sufficient data on farm risk prevention and management related to animal welfare and farm safety investments and energy efficiency in the pig and poultry sectors.

BDGP Analysis of Performance Indicators

One of the key measures determining the productivity of suckler beef cows is the calving interval. Calving interval describes the number of days between successive calvings and requires farmers to adhere to good management, breeding and genetic practices. Data for BDGP beneficiaries shows that the calving interval improved by 8 days between 2015 and 2016 but is still some distance from the optimal target of 365 days. The collated data shows that those within the BDGP have a slightly better calving interval rate compared to the average farm in the Irish beef sector (5 days less in 2015 and 2016 respectively).

The calf per cow per year is another key performance indicator of a herd's fertility. This is calculated by dividing the number of live calves at 28 days by the number of eligible females in the herd over 22 months of age. The average calf per cow per year for BDGP beneficiaries has seen a slight improvement from 0.83 in 2015 to 0.84 in 2016. This means that in a 100 cow suckler herd, the average farmer in 2016 is weaning 84 calves from 100 cows. The optimal target calf per cow per year is 0.95.

With a longer grazing season, there is less need for silage and concentrate supplementation which in turn reduces the greenhouse gas emissions generated. Data on this indicator will be collected as part of completing the Carbon Navigator under the BDGP; however, it is too early in the scheme to analyse their results at this juncture.

Relevant External Research

An independent study analysed the predicted improvements in GHG emissions intensity expected from genetic progress that will arise from the BDGP and associated breeding strategies using the ICBF's Beef Maternal Replacement Index.

Effects of index traits on gross GHG and annual emissions intensity for an age-constant slaughter endpoint system are shown in Table 4.5.3 of the evaluation report. Increased survival rates, growth to slaughter, carcass muscling (conformation), and decreased feed inputs, carcass fat, calving interval, and age at maturity were all predicted to reduce system-wide GHG intensity. Based on current genetic trends in index traits, genetic gain was predicted to reduce GHG intensity on a system-wide basis by 0.009 kg CO₂e/kg meat/year/€ index value.

Baseline Analysis for Counterfactual Study of BDGP Beneficiaries

The NFS conducted by Teagasc on an annual basis is a random, nationally representative sample, of over 1,000 farms. Each farm is assigned a weighting factor so that the results of the survey are representative of the national population of farms. The survey provides data on a range of economic, environmental and social indicators and will allow for a rigorous counterfactual analysis of RDP beneficiaries and non-beneficiaries.

The indicators examined below will be monitored over the entire programme period allowing an assessment of the impact of the BDGP on its stated objectives under, nutrient management and emissions. The 2015 data utilised in the figures below can be considered a baseline position of BDGP beneficiaries and non-TAMS beneficiaries.

1. Nutrient management: The nitrogen balance indicator will be used to assess the potential magnitude of nitrogen surplus which may result in nutrient losses to water bodies.
2. Emissions: The average GHG emission per hectare indicator is used to assess progress in reducing

emissions.

Following the matching exercise, 305 farms within the NFS were paid under the BDGP which equates to over 34,000 farms when weighting factors are assigned. The evidence shows that the majority of farms paid under the BDGP are in the cattle and sheep sectors.

As there are a large number of cattle farming systems within the BDGP, it is useful to examine the suckler cow herd size of farms across BDGP and non-BDGP farms. The evidence shows that a larger portion of the more intensive suckler farms are part of the BDGP. While the majority of beneficiaries and non-beneficiaries have less than 20 suckler cows in their herd, 93% of farmers within the NFS that have over 40 suckler cows are BDGP beneficiaries.

Nutrient management

The nitrogen balance per hectare farmed is calculated using a nutrient accounting approach in which nitrogen exports from the farm are subtracted from nitrogen imports to the farm. Nitrogen exports are the Nitrogen components of milk, crops, wool and livestock sold (including livestock for slaughter) from the farm. Nitrogen imports are composed of fertilisers applied, feeds purchased and livestock brought onto the farm.

The nitrogen balance is used as an indicator of the potential magnitude of nitrogen surplus which may result in nutrient losses to water bodies. It also takes account of management practices most directly under the farmers control and is used to assess agronomic efficiency as well as the environmental sustainability of a farm.

While all farms in the BDGP have a significantly lower nitrogen surplus than those outside the scheme, distilling the data to cattle farms only shows that non-beneficiaries of the BDGP have a slightly lower surplus than those within the scheme.

Emissions:

GHG emissions from agriculture are calculated using the Intergovernmental Panel on Climate Change coefficients and conventions. This approach estimates emissions associated with agricultural production activity within the farm gate. Agricultural emissions categories include methane (CH₄) emissions from enteric fermentation by ruminant livestock, methane and nitrous oxide (N₂O) emissions from the production and storage of livestock manures and nitrous oxide emissions resulting from the application of manures and synthetic fertilisers to agricultural soils.

Average GHG emissions per ha are significantly higher for farms outside the BDGP as these include dairy farms which are typically more productive and have larger herd sizes than other farm types. Data is also shown for farms that are classified as primary cattle enterprises. Non-beneficiaries of the BDGP under this classification have slightly lower average GHG per ha (3.9 CO₂-eq. per ha) than beneficiaries of the scheme (4.1 CO₂-eq. per ha).

Secondary effects

While the primary objective of the BDGP is to reduce GHG emissions by improving the maternal genetics of the beef herd, it also aims to make a positive contribution to farmer profitability. This can be accounted for as a secondary contribution to improving economic performance under Focus Area 2A.

Baseline NFS data for 2015 shows that the average gross margin per hectare for BDGP beneficiaries was

€534, this is 41% lower than all farms outside the scheme. However examining cattle farms only, we can see that BDGP beneficiaries are slightly more profitable than non-beneficiaries.

GLAS - Modelling on Baseline Pollutant Losses

As part of the GLAS baseline evaluation, RSK ADAS Ltd produced an evaluation report modelling pollutant emissions from agricultural land and the effect of changes in land management. This provides a complementary intermediate between result and impact indicators by forecasting the potential long-term impact of GLAS management interventions in advance of long-term environmental monitoring for impact detection.

The evaluation has so far determined the following output and result indicators:

- areas of scheme participation;
- Input loads controlled by farms in scheme (and the proportion of regional and national totals); &
- baseline pollutant loss from farms in scheme (and the proportion of regional and national totals).

Approximately one third of agricultural land is managed by farms in GLAS with the proportions roughly comparable for all farm types except specialist dairying which is noticeably lower at only 13% and specialist sheep farming which is higher at 47%.

The baseline losses are explicitly disaggregated by source, source area, method of mobilisation and delivery pathway allowing a transparent evaluation of the limits to pollution control under GLAS.

These datasets can be used to assess the impacts on agricultural pollution from farms in GLAS. The model allows for the calculation of impact indicators demonstrating the levels of pollutant reduction that have occurred, both on land in the scheme and at whole catchment / national level when diluted with the pollution occurring from farms not in the scheme.

The pollutant emissions measured for this baseline modelling analysis are listed below along with the relevant CEQ Focus Area they aim to address:

- FA 4C - Nitrate (N);
- FA 4C - Phosphorus (P);
- FA 4B - Sediment (Z);
- FA 5D - Nitrous oxide (N₂O); &
- FA 5D - Methane (CH₄).

Nitrate losses from the representative farm types were calculated using a combination of the field scale models. The selected nitrate models were sensitive to cropping history, fertiliser and manure nitrogen inputs and crop off-take, stocking density and soil hydrology, and have previously been used to support the evaluation of the British nitrates policy and the designation of the Nitrate Vulnerable Zones.

Phosphorus and sediment emissions from the representative farm types were calculated using a process-based, monthly time-stepping model with explicit representation of surface and drain flow hydrological pathways, particulate and solute mobilisation and incidental losses associated with fertiliser and manure spreading.

Nitrous oxide and methane emissions were calculated according to the IPCC methodology wherein data on

livestock numbers, crop areas, and the nitrogen contents of fertiliser and manure are multiplied by agreed emission factors, using data on productivity and manure management.

Although approximately 32% of all agricultural land is managed by farms in GLAS, baseline results from the modelling exercise show that the percentage of the national pollutant load occurring from this land within GLAS varies between 33% and 23% across the 5 measures selected (Table 4.6.3). The values were lower than the proportion of land (i.e. 32%) for most pollutants because dairy farms, which typically have the highest pollutant footprints are less likely to be in GLAS.

Improvement of water quality and management is measured by the percentage of the national pollutant load attributed to nitrate and phosphorus from land within GLAS is calculated as 27% and 28% respectively.

Sediment is used as an indicator of the impact on soil erosion prevention and soil management. It accounts for the largest percentage (33%) of the national pollutant load attributed to land within GLAS.

Nationally, 23% of the pollutant load occurring from land within GLAS is attributed to methane and 27% attributed to nitrous oxide. Both these indicators can be used to assess the impact of GLAS in reducing GHG emissions.

TAMS II - Emissions

Greenhouse Gas Emissions

GHG emissions from agriculture are calculated using the IPCC coefficients and conventions. This approach estimates emissions associated with agricultural production activity inside the farm gate.

The evidence shows that average GHG emissions per hectare in 2015 were higher for farms participating in TAMS II than those outside the scheme.

Investment items available under the Low Emission Slurry Spreading Scheme (LESS) and the Farm Nutrient Storage strand aim to support more efficient use of nutrients, resulting in lower use of artificial fertiliser and in turn reduced run-off from land leading to improved water quality and lower emissions. In addition, the Green Low-carbon Agri-environment Scheme (GLAS) under Measure 10 of the RDP provides support to farmers for low emission slurry spreading with the condition that LESS equipment is used.

7.n7) Conclusions and recommendations

7.n7.a) *Conclusion / Recommendation 1*

Conclusion:

BDGP - conclusions

While it is too early in the scheme to fully analyse the results of the BDGP, it is nevertheless clear that improvements have been made in improving herd efficiency and fertility. Data for BDGP beneficiaries show that the calving interval improved by 8 days between 2015 and 2016 but is still some way off the optimal target of 365 days. The average calf per cow per year for BDGP beneficiaries has seen a very marginal improvement from 0.83 in 2015 to 0.84 in 2016. Improving the productivity of the herd by increasing the calf per cow ratio, lowering the replacement rate and increasing the survival of cows in the herd will lower methane production, thus reducing the carbon footprint on those farms.

Baseline Teagasc NFS data shows that the majority of production intensive cattle farms are engaged in the scheme and that BDGP beneficiaries have slightly higher emission rates than non-beneficiaries which indicates that the scheme is targeting optimal farms within the cattle sector.

Recommendation:

7.n7.b) Conclusion / Recommendation 2

Conclusion:**GLAS - conclusions**

An evaluation report modelling pollutant emissions from agricultural land and the effect of changes in land management found that the percentage of the national pollutant load occurring from land within GLAS varies between 33% and 23% across the five measures selected. Nitrate and phosphorus from land within GLAS are calculated as 27% and 28% of the national pollutant load. Sediment accounts for the largest percentage (33%) of the national pollutant load attributed to land within GLAS while 23% of the national pollutant load occurring from land within GLAS is attributed to methane and 27% is attributed to nitrous oxide. The values are lower than the proportion of land (i.e. 32%) for most pollutants because dairy farms, which typically have the highest pollutant footprints, are less likely to be in GLAS.

Recommendation:

7.o) CEQ15-5E - To what extent have RDP interventions supported carbon conservation and sequestration in agriculture and forestry?

7.o1) List of measures contributing to the FA

Priority 5 of EU rural development policy is concerned with promoting resource efficiency and supporting the shift towards a low carbon and climate resilient economy in agriculture. More specifically, Focus Area (FA) 5E of the RDP is concerned with fostering carbon conservation and sequestration in agriculture and forestry.

At present, GLAS is the only operational RDP measure contributing to that objective though some European Innovation Partnership projects may potentially also be programmed under this FA once they become operational in future years. Before considering evaluation methods and results, some background description will provide a necessary introduction to the intervention.

Relevant Focus Areas and Common Evaluation Questions

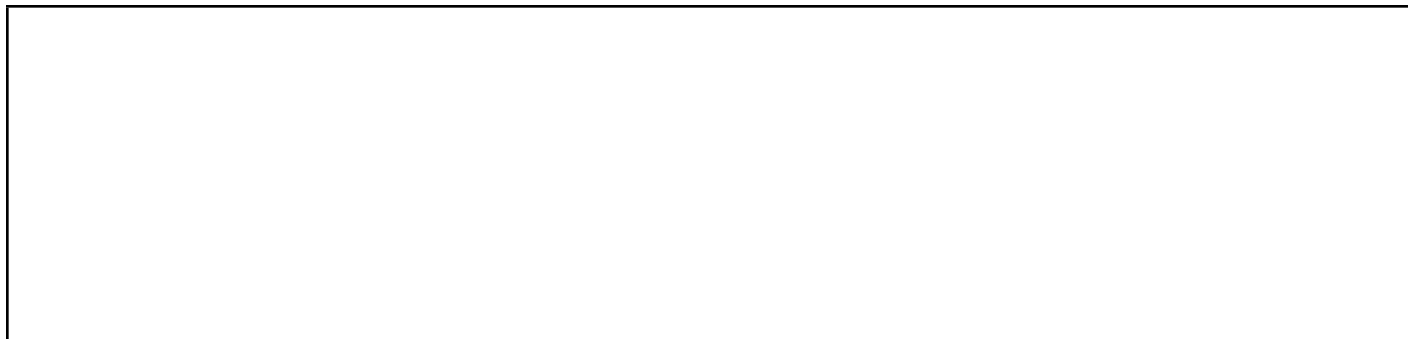
- FA 4A - To what extent have RDP interventions supported the restoration, preservation and enhancement of biodiversity including in Natura 2000 areas, areas facing natural or other specific constraints and HNV farming, and the state of European landscape?
- FA 4B - To what extent have RDP interventions supported the improvement of water management, including fertilizer and pesticide management?
- FA 4C - To what extent have RDP interventions supported the prevention of soil erosion and improvement of soil management?
- FA 5D: - To what extent have RDP interventions contributed to reducing GHG and ammonia emissions from agriculture?
- FA 5E - To what extent have RDP interventions supported carbon conservation and sequestration in agriculture and forestry?

Background

GLAS is a successor to REPS (Rural Environment Protection Scheme) and AEOS (Agri-Environment Options Scheme) which encouraged farmers to farm in an environmentally sound and climate friendly manner. It promotes farming methods that aim to address the issues of climate change mitigation, water quality and the preservation of priority habitats and species.

GLAS is a highly targeted scheme. Key to its design is the identification of a number of Priority Environmental Assets (PEAs) – primarily vulnerable landscapes (including Natura and uplands), species at risk (primarily endangered birds) and high-quality watercourses. It has a three-tier hierarchy and this structure is designed to prioritise provision of environmental benefits.

Support under GLAS is made by way of fixed-value packages for a minimum contract period of five years. Payments are calculated annually on the basis of qualifying actions delivered for the year in question. The maximum payment to any participant in GLAS is €5,000 in respect of a calendar year. Within budget limits, a higher-value package known as GLAS+ is also available to a limited number of farmers who take on particularly challenging actions which provide an exceptional level of environmental benefit. This package includes additional payment of up to €2,000 per annum, or a total package value of €7,000. GLAS+ applies in cases where the combined cost of delivering mandatory actions for a number of Priority Environmental Assets exceeds the standard package value of €5,000 per annum. However, farmers managing extensive areas of endangered bird habitat qualify automatically for GLAS+, without the need for a second PEA if they manage sufficient area. Farmers undertaking a combination of minimum tillage and catch crop actions may also qualify for GLAS+ in certain circumstances.



7.o2) Link between judgment criteria, common and additional result indicators used to answer the CEQ

Judgment criteria	Common result indicator	Additional result indicator
Carbon conservation and sequestration in agriculture and forestry has increased	R20 / T19: percentage of agricultural and forest land under management contracts contributing to carbon sequestration and conservation (focus area 5E)	
Agricultural and forestry land under enhanced management contract contributing to carbon sequestration has been enlarged	R20 / T19: percentage of agricultural and forest land under management contracts contributing to carbon sequestration and conservation (focus area 5E)	

7.o3) Methods applied

GLAS - methods applied

A qualitative survey of GLAS beneficiaries to gather information on their motivations for joining GLAS as well as their experience with the scheme and the individual GLAS actions.

FAs 4A, 4B, 5D and 5E – Preliminary results from a summary evaluation report on the baseline monitoring output of 26 actions across Focus Areas 4A, 4B, 5D and 5E under GLAS. These actions will be surveyed again in advance of the 2019 AIR and the 2024 ex-post evaluation. For each of the actions, a set of measures of success was agreed. These were derived directly from the specific management requirements for individual actions, and are intended to provide an overall indication of the success or otherwise of an action in relation to the individual parcel. These management requirements are themselves based on a knowledge of the individual ecology of the species or habitat. The measures are intended to be easily monitored and evaluated to facilitate comparison with future surveys on each sample parcel to assess the extent of change over time and across the whole sample set to better understand variations in findings.

FAs 4C and 5D: Quantitative analysis using NFS data to establish the baseline position of GLAS beneficiaries and non- beneficiaries. The NFS indicators will be monitored over the entire programme period allowing an assessment of the impact of RDP interventions on their stated objectives under nutrient management and emissions.

The NFS data will be used to evaluate results of these farms against their counterfactual (i.e. to calculate the changes that would have occurred without the specific programme intervention) throughout the lifetime of GLAS. It will also be used to assess the impacts and results of scheme supports on participant farms each year.

FAs 4B,4C and 5D: A quantitative modelling exercise is employed to evaluate the effect of GLAS on water quality and climate by estimating nutrient (nitrate and phosphorus) and sediment losses in runoff to rivers

and lakes along with the emission of climate change gases (nitrous oxide and methane) and the consequential mitigation potential from the intervention of GLAS actions.

7.o4) Quantitative values of indicators and data sources

Indicator type	Indicator code and name (unit)	Ratio	Indicator value	Calculated gross value	Calculated net value	Data and information sources
Common result indicator	R20 / T19: percentage of agricultural and forest land under management contracts contributing to carbon sequestration and conservation (focus area 5E)	No				

7.o5) Problems encountered influencing the validity and reliability of evaluation findings

N/A.

7.o6) Answer to evaluation question

Attitudinal survey on GLAS beneficiaries

An attitudinal survey on 175 GLAS beneficiaries was conducted by ADAS Ltd as part of a GLAS baseline evaluation study. Around half of the scheme beneficiaries interviewed as part of the survey were part-time farmers. The predominant farm types of participants were cattle rearing (40%) and mixed livestock farms (38%). The age of the principal decision maker for more than half (57%) of the farmers interviewed was between 45 and 64 years old. Nearly 80% of the farms interviewed were previously in an agri-environmental scheme and only 21% had not participated in any other scheme. The actions undertaken by the respondents included: farmland birds (80%); low input permanent pasture (47%); farmland habitats (30%); protection of watercourses from bovines (29%); hedgerows (26%); traditional hay meadow (23%); commonage (23%); arable grass margins/riparian margins (14%); catch crops (11%) and minimum tillage (4%).

Results from the survey indicate that the key drivers of participation in GLAS were: increased income/the scheme payment (68%); increased income stability (62%); and increasing the sustainability of the farm for future generations (66%). Environmental reasons such as improving water quality (45%) and increasing the biodiversity on the farm (43%) were less influential factors.

The majority of the farmers interviewed were very positive about their experience of GLAS and more than two thirds of farmers reported that they intend to join any future agri-environment measure. The majority (54%) of farmers claimed that participation in GLAS would increase their workload and 41% reported no change in the workload. Some 84% of respondents felt that their awareness of actions to address environmental issues has increased due to participation in the GLAS.

Preliminary baseline analysis of GLAS actions

RSK ADAS Ltd was contracted to carry out a longitudinal field survey of GLAS actions. Fieldwork started in 2016 and a finalised baseline report is due for completion in 2018.

Collected field data was analysed by reference to the measures of success devised for each individual action. For example, parameters such as sward height, species composition (e.g. how 'rushy' a sward is or to what extent a sward is unimproved, etc.) and the extent of scrub encroachment were important factors measured across a number of actions. Other measurement criteria used were specific to each action as requirements differ across GLAS actions reflecting the different ecology of the targeted interventions. In the case of the Chough action, it is widely recognised that this species requires a short, tightly grazed sward, with little scrub or bracken encroachment because these conditions allow the species to feed effectively. Therefore, the management requirements state:

- produce a suitable sward by developing an appropriate grazing plan to maintain a tightly grazed short sward throughout the year on the areas within the GLAS contract; and
- heather, bracken and scrub where present must be controlled, between 1 September and 28 February, having regard to other habitats and species that may exist onsite

Surveyors also recorded the presence or absence of the target birds themselves (for the four species specific actions) and the total number of birds present for the wild bird cover action. This data was included as a measure of success for the wild bird cover action, indicating the success of the 'crop' as a food resource for wintering wild birds. However, it was not included as a measure of success for other actions as presence or absence of the target species could be reflective of many factors outside the scope of the management regime.

Initial findings show that, in general, actions have been well targeted on a geographic basis across the sample parcels selected. The Hen Harrier parcels are in or close to Special Protection Areas (SPAs) established for that species, the Chough parcels are on the west coast and at the inland population in Leitrim. Parcels for geese and swans are located in known areas for wintering populations of light-bellied Brent Geese, Barnacle Geese, Greenland white-fronted Geese and Whooper Swans. Chough sightings were recorded on or close to 17 of 30 targeted parcels. The majority of the parcels surveyed meet the both species and composition requirements under the Chough action even though only half of the parcels had a suitable sward height.

Modelling on Baseline Pollutant Losses from GLAS

As part of the GLAS baseline evaluation, ADAS Ltd also produced a report modelling pollutant emissions from agricultural land and the effect of changes on land management. This analysis provides a complementary intermediate between result and impact indicators by forecasting the potential long-term impact of GLAS management interventions in advance of long-term environmental monitoring for impact detection.

A number of key spatial environmental datasets were created to enable agricultural pollutant modelling across the whole of Ireland. These datasets included monthly annual average climate variables, soil series

and land cover. Data on soil series properties were also tabulated and additional properties such as bulk density derived using pedo-transfer functions appropriate for Irish conditions.

In order to create the agricultural input data required for the pollutant models, representative farm systems were created and populated with activity data (i.e. livestock, manure and fertiliser management data) for Ireland. This activity data was derived from a range of external surveys and information sources which included Teagasc fertilizer [1] data and National Farm Survey data. Farm level agricultural census data collected by DAFM was used to determine the farm type for each holding, allowing for both the creation of crop and livestock statistics for each farm type and the creation of farm type crop and livestock numbers by WFD waterbody.

All these datasets were used to run a suite of agricultural pollutant models in order to produce annual average loads of nitrate, phosphorus, sediment, nitrous oxide and methane. The pollutant loads were produced at WFD waterbody scale and the results could be disaggregated by farm type and the other coordinates of the source apportionment system (e.g. by flow pathway or source area).

The evaluation has so far determined the following output and result indicators:

- areas of scheme participation;
- input loads controlled by farms in scheme (and the proportion of regional and national totals); &
- baseline pollutant loss from farms in scheme (and the proportion of regional and national totals).

Approximately one third of agricultural land is managed by farms in GLAS with the proportions roughly comparable for all farm types except specialist dairying, which is noticeably lower at only 13%, and specialist sheep farming, which is higher at 47%. This explains why uptake of GLAS is lowest in dairying areas such as the south.

The baseline losses are explicitly disaggregated by source, source area, method of mobilisation and delivery pathway allowing a transparent evaluation of the limits to pollution control under GLAS.

These datasets can be used to assess the impacts on agricultural pollution from GLAS farms. Hence, the model allows for the calculation of impact indicators demonstrating the levels of pollutant reduction that have occurred, both on land in the scheme and at whole catchment / national level when diluted with the pollution occurring from farms not in the scheme.

The pollutant emissions measured for this baseline modelling analysis are listed below along with the relevant CEQ Focus Area:

- FA 4C - Nitrate (N);
- FA 4C - Phosphorus (P);
- FA 4B - Sediment (Z);
- FA 5D - Nitrous oxide (N₂O); &
- FA 5D: - Methane (CH₄).

Nitrate losses from the representative farm types were calculated using a combination of the field scale N-CYCLE, NITCAT and MANNER models (Lord, 1992; [1] Scholefield *et al.*, 1991 [2]; Chambers *et al.*, 1999 [3]). The selected nitrate models were sensitive to cropping history, fertiliser and manure nitrogen inputs and crop off-take, stocking density, and soil hydrology, and have previously been used to support the evaluation of the British nitrates policy and the designation of the Nitrate Vulnerable Zones (Lord and Anthony, 2000) [4].

Phosphorus and sediment emissions from the representative farm types were calculated using the field scale version of the PSYCHIC model (Davison *et al.*, 2008) [5]. This is a process based, monthly time-stepping model with explicit representation of surface and drain flow hydrological pathways, particulate and solute mobilisation, and incidental losses associated with fertiliser and manure spreading.

Nitrous oxide and methane emissions were calculated according to the methodology of the Intergovernmental Panel on Climate Change (IPCC, 2006) [6] wherein data on livestock numbers, crop areas, and the nitrogen content of fertiliser and manure are multiplied by agreed emission factors, using data on productivity and manure management.

Although approximately 32% of all agricultural land is managed by farms in GLAS, baseline results from the modelling exercise show that the percentage of the national pollutant load occurring from this land within GLAS varies between 33% and 23% across the 5 measures selected. The values are lower than the proportion of land (i.e. 32%) for most pollutants because dairy farms, which typically have the highest pollutant footprints, are less likely to be in GLAS.

Improvement of water quality and management is measured by the percentage of the national pollutant load attributed to nitrate and phosphorus from land within GLAS is calculated as 27% and 28% respectively.

Sediment is used as an indicator of the impact on soil erosion prevention and soil management. It accounts for the largest percentage (33%) of the national pollutant load attributed to land within GLAS.

Some 23% of the national pollutant load occurring from land within GLAS is attributed to methane and 27% attributed to nitrous oxide. Both these sources can be used to assess the impact of GLAS in reducing GHG emissions.

References

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7.o7) Conclusions and recommendations

7.o7.a) *Conclusion / Recommendation 1*

Conclusion:

GLAS - conclusions

Results from an attitudinal survey of 175 GLAS beneficiaries show that 80% of respondents undertook farmland bird actions. Low input permanent pasture (47%) and farmland habitats (30%) were the second and third most popular actions undertaken. The key drivers of participation in GLAS were increased income/the scheme payment (68%), increased income stability (62%) and increasing the sustainability of the farm for future generations (66%).

Preliminary findings from a baseline field survey show particularly strong sightings for some bird actions, e.g. Chough sightings were recorded on or close to 17 of 30 targeted parcels. Moreover, 29 of the 30 targeted parcels for wild bird cover had birds present with over 100 birds spotted on 4 individual parcels. Results for some other species actions were more mixed probably due to the paucity of individual species generally in Ireland as the habitat conditions appeared to be suitable on the majority of the parcels surveyed. It is anticipated that habitat condition will improve over time from the baseline assessment.

An evaluation report modelling pollutant emissions from agricultural land and the effect of changes in land management found that the percentage of the national pollutant load occurring from land within GLAS varies between 33% and 23% across the five measures selected. Nitrate and phosphorus from land within GLAS are calculated as 27% and 28% of the national pollutant load. Sediment accounts for the largest percentage (33%) of the national pollutant load attributed to land within GLAS while 23% of the national pollutant load occurring from land within GLAS is attributed to methane and 27% is attributed to nitrous oxide. The values are lower than the proportion of land (i.e. 32%) for most pollutants because dairy farms, which typically have the highest pollutant footprints, are less likely to be in GLAS.

Recommendation:

N/A.

7.p) CEQ16-6A - To what extent have RDP interventions supported the diversification, creation and development of small enterprises and job creation?

This question is marked as not relevant for this AIR version

No RDP measures are relevant to this Focus Area.

7.q) CEQ17-6B - To what extent have RDP interventions supported local development in rural areas?

7.q1) List of measures contributing to the FA

Priority 6 of EU rural development policy is concerned with promoting social inclusion, poverty reduction and economic development in rural areas.

Pocus Area (FA) 6B of the RDP is specifically concerned with fostering local development in local areas.

The only measure programmed as contributing to FA 6B is LEADER (Measure 19).

LEADER

Sub-measures 19.1, 19.2, 19.3 & 19.4

Relevant Focus Areas and Common Evaluation Questions

- FA 6B - To what extent have RDP interventions supported local development in rural areas?

Background to sub-measure

The LEADER element of the RDP is administered and monitored by the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs (DAHRRGA). LEADER has formed part of the policy framework for rural development in Ireland since its inception in the 1990s and has proven to be an effective tool for supporting the economic and social development of rural communities.

It ensures that all members of rural communities have the opportunity to participate in decision making at local level through the formation of Local Action Groups (LAGs) and the design and implementation of Local Development Strategies (LDSs). Through these strategies, LAGs determine the needs of local areas and decide on the types of investment best suited to address those needs. This 'bottom up' or community-led approach involves community and local government bodies in leadership roles, guiding the provision of funding (both European and national) at a sub-regional level.

Ireland's LEADER programme encompasses 28 sub-regional areas and aims to address the following themes:

- rural economic development / enterprise development and job creation, incorporating rural tourism, enterprise development, broadband, rural towns;
- social inclusion through building community capacity, training, animation and rural youth initiatives; &
- rural environment including the protection and sustainable use of water resources, the protection and improvement of local biodiversity and the development of renewable energy.

7.q2) Link between judgment criteria, common and additional result indicators used to answer the CEQ

Judgment criteria	Common result indicator	Additional result indicator
		Percentage of RDP expenditure in Leader measures with respect to total RDP expenditure
		Number of projects/initiatives supported by the

		Local Development Strategy
Employment opportunities have been created via local development strategies	R24 / T23: Jobs created in supported projects (Leader) (focus area 6B)	
Rural territory and population covered by LAGs has increased	R22 / T21: percentage of rural population covered by local development strategies (focus area 6B)	
Access to services and local infrastructure has increased in rural areas	R23 / T22: percentage of rural population benefiting from improved services/infrastructures (focus area 6B)	
Services and local infrastructure in rural areas has improved	R23 / T22: percentage of rural population benefiting from improved services/infrastructures (focus area 6B)	
Rural people have participated in local actions		
Rural people have benefited from local actions		

7.q3) Methods applied

LEADER - methods applied

- Qualitative description of the preparatory and administration activities conducted in 2015-2016.
- Development of an interactive story board of 2007-2013 RDP project case studies.
- A survey of LAG CEOs and Development Officers following capacity building training for Local Action Groups (LAGs).

7.q4) Quantitative values of indicators and data sources

Indicator type	Indicator code and name (unit)	Ratio	Indicator value	Calculated gross value	Calculated net value	Data and information sources
Common result indicator	R22 / T21: percentage of rural population covered by local development strategies (focus area 6B)	No				
Common result indicator	R23 / T22: percentage of rural population benefiting from improved services/infrastructures (focus area 6B)	No				
Common result indicator	R24 / T23: Jobs created in supported projects (Leader) (focus area 6B)	No				
Additional result indicator	Number of projects/initiatives supported by the Local Development Strategy	No				
Additional result indicator	Percentage of RDP expenditure in Leader measures with respect to	No				

	total RDP expenditure					
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7.q5) Problems encountered influencing the validity and reliability of evaluation findings

N/A.

7.q6) Answer to evaluation question

LEADER findings

LEADER expenditure in 2015 and 2016 is based on preparatory and administration activities only. Projects did not commence in these years as the primary management objective was the selection of LAGs to design and implement Local Development Strategies (LDSs). LAGs were selected for all 28 sub-regional areas in 2016 with funding agreements signed with all selected groups.

It should be noted that the LAG selected in the Galway sub-regional area did not cover the entire county and a separate LAG was established for the 'East Galway' region in 2017 bringing the total number to 29. It is anticipated that 66% of the rural population will be covered by LDSs and that 3,100 jobs will be created in supported projects. The RDP defines the rural population those residing outside the five main cities and the population covered by LDSs equates to the sub regional area of each selected LAG.

The 28 selected LAGs have recorded over 4,500 Expressions of Interest (EOIs) to date, of which 94% are currently in progress at various stages. The remaining EOIs have either been withdrawn or found to be ineligible.

Of the 4,195 EOIs recorded on the system, 3,736 (89%) identified a theme and sub-theme. The remaining 459 (11%) project records have no theme or sub-theme recorded. 2,472 EOIs (66%) have been submitted under the rural economic development, enterprise development and job creation theme, while 1,124 (30%) have been submitted under the social inclusion theme.

The most popular sub-themes under theme 1 relate to rural tourism, which accounts for 57% of EOIs submitted. This is followed by enterprise development at 29%. By contrast, less than 1% (21) of EOIs received under theme 1 related to broadband. The vast majority, of EOIs (990) submitted under theme 2 concerned basic services for hard to reach communities. The remaining 134 (12%) EOIs were targeted at projects for rural youth. Finally, 55% of EOIs submitted under theme 3 related to the sub-theme of local biodiversity and 26% concerned renewable energy which made up over half the total amount applied for (i.e. €2.6m).

Monitoring and Evaluation Requirements

LAGs have a minimum of 6 months to finalise their strategies and as part of their Local Development Strategy Framework, each LAG must develop a monitoring and evaluation plan. The plan outlines the methodology for collecting good quality data that measures the achievement of local objectives and reports on local projects. LAGs should also carry out regular reviews of their strategies to measure progress and identify challenges.

LAG proposals to evaluate their strategies must include the following elements:

- objectives of the evaluation;
- governance for managing the evaluation;
- specific themes that the LAG wishes to evaluate;
- data requirements and methodology to be employed;
- timelines / key milestones; &
- proposed approach to communicating the findings.

From 2017, each LAG must submit a short annual report to DAHRRGA by the end of February each year. The report must contain the following elements as set out in the Annual Report template available through the LEADER ICT system.

1. An outline of the previous year's achievements relative to the priority actions identified to include:
 - information on LAG organisational structure, operations and decision-making;
 - issues or challenges encountered in implementation during the year;
 - particular successes to be highlighted; &
 - progress made in contributing to LEADER's cross-cutting objectives.
2. The priority actions for the year in which the report is produced.
3. Three project case studies covering different sub-themes, to include information regarding the:
 - promoter background and description;
 - project or business description;
 - products or facilities or services delivered;
 - financial information (previous funding or other sources of funding);
 - employment (current and potential);
 - performance indicator data;
 - compatibility with the LAG's strategy, LEADER themes and cross-cutting objectives; &
 - benefit to the community.

Once the reports are submitted by the 29 LAGs, DAHRRGA will review them and engage with individual LAGs as appropriate. The Department will also summarise any patterns, trends or key issues emerging from the reports and make data from them available to contribute to an overall framework for evaluating LEADER performance generally and the LAG's performance specifically.

In order to fully answer relevant Common Evaluation Questions on LEADER, additional indicators will be collected:

- Jobs sustained as a result of RDP intervention;
- number of new SMEs supported;
- number of existing SMEs supported;
- number of SMEs supported in the non-agricultural sector;
- number of rural dwellers participating in a local development action;
- number of rural dwellers participating in a capacity building / training actions;
- number of projects / initiatives supported by the LDS; &

- amount of funding leveraged to support the local development action

Ireland's National Rural Network, which was established in January 2016 and is funded under the RDP, will also play a key role in the evaluation of LEADER. A number of case studies have been conducted for the 2007-2013 programme period and these have been developed into an interactive story board on the NRN website. An interactive story board will also be developed for projects in the 2014-2020 period to highlight areas of best practice across all LEADER themes.

Training of LAGs survey

The NRN also conducted a survey on capacity building training for LAGs in order to enhance the delivery of LEADER. LAG CEOs and Development Officers were surveyed and findings showed that training on IT (86%) and operating rules (84%) were identified as the most important training categories. Rural environment (97%), social inclusion (89%) and economic development / enterprise development / job creation (84%) were identified as the most important LEADER themes that should be addressed during training. The most popular types of training that LAGs requested were workshops (65%) and webinars (52%).

7.q7) Conclusions and recommendations

7.q7.a) Conclusion / Recommendation 1

Conclusion:

LEADER - conclusions

As expenditure in 2015 and 2016 under LEADER is based on preparatory and administration activities only, it is not possible to fully assess the extent to which LEADER funding has supported local development in rural areas. The primary objective in those years was the selection of LAGs to design and implement Local Development Strategies (LDSs). LAGs were selected in all 28 sub-regional areas in 2016 with funding agreements signed with all selected groups. Since the LAG selected for the Galway sub-regional area did not cover the entire county, a separate LAG was established for 'East Galway' in 2017 bringing the total number of LAGs to 29.

Selected LAGs must develop a monitoring and evaluation plan within their LDSs and must also submit an annual report to DAHRRGA by the end of February each year. This report must outline the previous year's achievements, priorities for the current year and include three project case studies covering different sub-themes. The data collected from these reports together with relevant mandatory and additional indicators and information compiled by the National Rural Network will ensure that a robust evaluation framework will be in place for the present LEADER programme.

A survey on capacity building training of LAG CEOs and Development Officers carried out by the NRN found that training on IT (86%) and operating rules (84%) were the most important training categories identified.

Recommendation:

N/A.

7.r) CEQ18-6C - To what extent have RDP interventions enhanced the accessibility, use and quality of information and communication technologies (ICT) in rural areas?

This question is marked as not relevant for this AIR version

No RDP measures are relevant to this Focus Area.

7.s) CEQ19-PE - To what extent have the synergies among priorities and focus areas enhanced the effectiveness of the RDP?

This question is marked as not relevant for this AIR version

Not evaluated.

7.t) CEQ20-TA - To what extent has technical assistance contributed to achieving the objectives laid down in Art. 59(1) of Regulation (EU) No 1303/2013 and Art. 51(2) of Regulation (EU) No 1305/2013?

7.t1) Support for technical assistance (other than NRN)

Measure 20 - Technical Assistance

Relevant Focus Areas and Common Evaluation Questions

- To what extent has Technical Assistance contributed to achieving the objectives laid down in Art. 59(1) of Reg. 1303/2013 & Art. 51(2) of Reg. 1305/2013?

Background

A budget of €8.2m has been allocated under Technical Assistance (TA) to support the Managing Authority in funding any preparatory, monitoring, administrative, evaluation, audit and control measures necessary for RDP implementation. The TA budget is used to fund:

- any external expertise e required for evaluation purposes;
- the National Rural Network (NRN);
- the Communication Plan on information and publicity;
- expenses incurred in the operation of the Programme Monitoring Committee;
- the administrative support service which is to be set up by competitive tender in order to support the delivery of the animal health and welfare advisory service as set out in Measure 2 and the delivery of the Burren Programme as set out in Measure 10.

Rural Development Division is the Managing Authority (MA) for the RDP and consists of six staff members. It has the responsibility of managing, monitoring and drawing down the TA allocation and ensuring the efficient and effective management and implementation of the RDP.

7.t2) Link between judgment criteria, common and additional result indicators used to answer the CEQ

Judgment criteria	Common result indicator	Additional result indicator
Institutional and administrative capacities for the effective management of the RDP have been strengthened		Number of staff involved in RDP management
Institutional and administrative capacities for the effective management of the RDP have been strengthened		Skills of staff involved in RDP management
Institutional and administrative capacities for the effective management of the RDP have been strengthened		Functionality of the IT system for programme management
Capacities of relevant partners as defined by the Regulation (EU) No 1303/2013, Art. 5(1) have been reinforced		Types and number of capacity building activities
RDP has been communicated with the public and information has been disseminated		Number of RDP communication and dissemination activities
RDP has been communicated with the public and information has been disseminated		Number of people receiving information about the RDP

RDP has been communicated with the public and information has been disseminated		Information on the use of evaluation results
Monitoring has been improved		
Evaluation methods have been improved and have provided robust evaluation results		
The RDP implementation has been improved		The length of the application and payment process
Administrative burden on beneficiaries has been reduced		

7.t3) Methods applied

Technical Assistance - methods used

- An analysis of TA expenditure including the support provided for the RDP Monitoring Committee and capacity building training as well as a detailed breakdown of the information and publicity actions carried out to date.
- A description on key findings from six evaluation reports carried out on the RDP.
- A qualitative survey of 157 beneficiaries was used to assess the level of satisfaction with the quality of communication and dissemination activities for GLAS.

7.t4) Quantitative values of indicators and data sources

Indicator type	Indicator code and name (unit)	Ratio	Indicator value	Calculated gross value	Calculated net value	Data and information sources
Additional result indicator	Number of people receiving information about the RDP	No				
Additional result indicator	Information on the use of evaluation results	No				
Additional result indicator	Types and number of capacity building activities	No				
Additional result indicator	Functionality of the IT system for programme management	No				
Additional result indicator	Number of staff involved in RDP management	No				
Additional result indicator	Skills of staff involved in RDP management	No				
Additional result indicator	Number of RDP communication and dissemination activities	No				
Additional result indicator	The length of the application and payment process	No				

7.t5) Problems encountered influencing the validity and reliability of evaluation findings

N/A.

7.t6) Answer to evaluation question

Technical Assistance - Findings

i. Analysis of expenditure under Technical Assistance

Payments of approximately €65,000 (excluding VAT) were made from the Technical Assistance budget in 2015. The two main expenditure items were €20,000 for setting up a database for the Animal Health and Welfare Advisory Service under Measure 2 and €41,000 for the preparation of reports on the RDP ex-ante assessment and Strategic Environmental Assessment.

Expenditure for Technical Assistance in 2016 amounted to approximately €800,000. This includes payments for an ex-post evaluation of the 2007-2013 RDP an ex-ante assessment of Financial Instruments, a GLAS baseline evaluation study, the training of advisors on animal health and welfare and other ancillary costs. A sum of €305,000 was allocated from TA for the establishment and running of the National Rural Network in 2016 which is discussed further in CEQ 21.

ii. RDP Monitoring Committee

The MA organises annual meetings of the RDP Monitoring Committee. The first meeting of the Monitoring Committee for current programming period took place in September 2015 and also dealt with outstanding issues from the 2007-2013 RDP. Topics discussed included a presentation on the 10th and final amendment to the previous Programme. Presentations were also given on the rules of procedure for 2014-2020 Monitoring Committee. The selection criteria and an outline on the progress of the measures under the 2014-2020 Programme were also presented.

The second meeting of the Monitoring Committee took place in September 2016. It included presentations on the selection criteria and the progress of the implementation of measure to date. Attendees were informed of the approval of the first Programme amendment and the progress of evaluation activities. Presentations were also given on the proposed second amendment to the Programme and on the role and functions of the NRN.

Monitoring Committee meetings are attended by a range of stakeholder groups including staff from all relevant scheme implementing divisions and those involved in implementing and operating other European Structural Investment Funds. Farm bodies are also represented on the Monitoring Committee as well as Birdwatch Ireland, the Environmental Protection Agency, the Environmental Pillar and the Irish Local Development Network.

iii. Capacity Building

Members of the MA have attended a number of European Network for Rural Development (ENRD) capacity building events including workshops held by the European Evaluation Helpdesk that covered topics on the ex-post evaluation and preparing the assessment of HNV farming in 2014-2020 RDPs.

The MA also hosted a capacity building workshop on the 2017 enhanced Annual Implementation Report (AIR) in conjunction with the Evaluation Helpdesk. It was attended by personnel working in policy and operational units responsible for both the Irish and Northern Irish RDPs. The event took place at Agriculture House, Dublin in January 2017 and aimed to:

- ensure a common understanding on the reporting requirements for the AIR submitted in 2017;
- facilitate the correct completion of the SFC template for the AIR submitted in 2017; &
- discuss specific issues in relation to the assessment of results and answering the common evaluation questions (e.g. secondary contributions, assessment in case of low or no RDP uptake, small programmes, CLLD, NRN/TA, data issues and methods, etc.).

iv. Evaluation Reports

Six evaluation reports have been carried out on the 2014-2020 RDP to date and are listed below.

- Ex-ante Evaluation;
- Strategic Environmental Assessment;
- Appropriate Assessment;
- GLAS Evaluation - Literature Review;
- GLAS Evaluation - Preliminary Modelling Report;; &
- Ex-post Evaluation of the 2007-2013.RDP.

v. Information and Publicity

The Information and Publicity Strategy for the 2014-2020 RDP [1] was submitted to the Monitoring Committee in November 2015. It identified the information and publicity actions necessary to ensure that specific target groups have full access to current information on the Programme. As the Managing Authority for the RDP, Rural Development Division in DAFM has responsibility for the preparation and implementation of the strategy. This task is shared with implementing line divisions and with the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs (DAHRRGA) which has responsibility for the LEADER element of the Programme,

The National Rural Network (NRN) too ensures that the RDP is publicised and has implemented a comprehensive communication plan as a part of its Action Plan which is discussed in CEQ 21. A number of information and publicity actions were carried out over the 2014-2016 period to ensure that beneficiaries, stakeholders and the wider public were aware of the measures contained in 2014-2020 RDP. Some key actions are outlined hereunder.

110 press releases providing information on all RDP schemes and supports were prepared and distributed to 1,147 key stakeholders and media outlets. 70 Circulars providing scheme information to GLAS Advisors and a further 10 Circulars providing information to LEADER Local Action Groups were also issued. 18 presentations on the Programme were made to various stakeholder groups as well as to a number of visiting international delegations from Hungary, the Balkan states, Korea and China.

Information sessions and seminars provide beneficiaries and advisors with an opportunity to discuss the details of RDP measures with relevant DAFM and DAHRRGA staff. 91 information sessions and seminars were held in multiple occasions in the 2014-2016 period.. 27% of those consisted of information and training sessions for farmers and facilitators under Measure 1: Knowledge Transfer Groups while almost 20% consisted of information session on TAMS II which included 3 training sessions that specifically focused on the scheme application system. The TAMS training sessions were intended to address any issues that advisors and scheme participants had with the IT system and ensured a quicker application and approval process wishing to join the scheme. 11 information sessions were held on the LEADER measure. These included the official launch of LEADER as well as a number of capacity building sessions and focus groups on operating rules. These events attracted an average of 71 participants. Further information meetings and training seminars were carried out for GLAS and BDGP participants under Measure 10 and on the Locally-led Schemes delivered under Measure 16.

34 Demonstration Farm Walks were organised to allow farmers discuss and share best practice on farming methods. DAFM in conjunction with the National Parks & Wildlife Service and Birdwatch Ireland organised 8 farm walks in 2015 and 2016 on farms implementing GLAS actions to preserve the Grey Partridge, Twite and Corncrake. 13 Demonstration Farm Walks also took place on farms in the Organic Farming Scheme under Measure 11. These walks were organised by DAFM and Teagasc and have contributed to encouraging a greater uptake of organic farming in Ireland.

A number of publications have been produced to heighten awareness of RDP measures among stakeholders. A RDP summary booklet, containing a general description of each scheme as well as information on eligibility criteria and support rates, was published in September 2015. This booklet was updated in 2016 to take account of Programme changes following approval of the first amendment by the Commission. The latest booklet is available from Department offices and is published on the Department's website. Booklets were distributed at the National Ploughing Championships as well as at NRN events. Other publications include a factsheet on the LEADER programme which is produced and distributed by DAHRRGA and an internal information note on RDP implementation and management structures for operational divisions.

A dedicated online portal for the RDP is located on both the DAFM and DAHRRGA websites. Material on each measure and scheme is provided here and is updated regularly as well as on various social media platforms run by both Departments. The NRN also has eparate website and social media accounts which also promote the RDP. Finally, a text messaging service is used by DAFM to remind beneficiaries of important deadlines such as scheme opening and closing dates.

vi. Survey on RDP communication

An attitudinal survey of 175 GLAS beneficiaries was conducted as part of a baseline evaluation study of the scheme. The survey contained a series of questions on the communication of the scheme and the results were used to assess the level of satisfaction with the quality of communication and dissemination activities.

In terms of communication channels besides a GLAS advisor, specialist agricultural newspapers were the preferred source of information for more than a third of respondents. This was followed by the Department's

website (25%) and its telephone and e-mail helpdesk (11%).

The respondents felt that they were well informed on the application process (56%), guidelines / best practice on specific actions (59%) and scheme eligibility requirements (61%).

Finally, respondents identified the communication tools that they would most like to see DAFM expand its use of, when providing information on GLAS - information sessions (32%), newspaper / print media (34%), Department helpdesk (32%) and text messaging (34%).

[1]
<https://www.agriculture.gov.ie/media/migration/ruralenvironment/ruraldevelopment/ruraldevelopmentprogramme2014-2020/InformPublicityStrategyDec2017060218.pdf>

7.t7) Conclusions and recommendations

7.t7.a) Conclusion / Recommendation 1

Conclusion:

Technical Assistance - Conclusions

Rural Development Division in DAFM is the Managing Authority (MA) for the RDP and it has responsibility for administering Technical Assistance (TA) allocation. 11% of the TA budget has been used to fund a number of evaluations, establish a National Rural Network, implement a range of information and publicity actions and provide administrative support for a number of RDP measures.

Two meetings of the RDP Monitoring Committee took place in 2015 and 2016. The Committee membership encompasses a wide range of key stakeholders representing agricultural, environmental and rural interests. The MA has participated in and hosted capacity building events with the Evaluation Helpdesk to ensure that the RDP is implemented and evaluated to a high standard.

To date, the current Programme has funded six separate evaluations across a range of topics. These included an ex-ante evaluation, Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) of the draft RDP. A number of recommendations based on the findings of the ex-post evaluation of the 2007-2013 RDP have been formulated to inform the design of future policy to support agriculture and rural communities. A detailed literature review of the existing research on Irish agri-environment measures, a modelling exercise and a baseline field assessment of GLAS actions have also been carried out.

On the information and publicity and strategy, 110 press releases providing information on all RDP measures were prepared and distributed to key stakeholders and media outlets. 91 information sessions and seminars were held in a number of locations from 2014 to 2016 along with 34 Demonstration Farm Walks

to share best practice on farming methods. A number of publications, including a summary booklet of the RDP and a LEADER factsheet, have been produced to create awareness of RDP measures and a dedicated RDP portal is located on both DAFM and DAHRRGA websites.

Furthermore, an attitudinal survey of 175 beneficiaries on the quality of GLAS communication and dissemination activities found that 34% of respondents used specialist agricultural newspapers as a primary source of attaining additional information on the scheme. Respondents felt that they were relatively well informed on a range of GLAS topics and would like to see some improvements in / expansion of information sessions, newspaper / print media, department helpdesk and text messaging to reinforce the communication process.

Recommendation:

N/A.

7.u) CEQ21-RN - To what extent has the national rural network contributed to achieving the objectives laid down in Art. 54(2) of Regulation (EU) No 1305/2013?

7.u1) Intervention logic of the NRN

The National Rural Network

Relevant Focus Areas and Common Evaluation Questions

- To what extent has the NRN contributed to achieving the objectives laid down in Art. 54(2) of Reg. 1305/2013?

Background

Irish Rural Link in partnership with the Wheel, NUI Galway and Philip Farrelly and Co. was chosen in January 2018 to run the National Rural Network following a competitive tender process. The running of the NRN is funded from the RDP Technical Assistance budget and its objectives, as outlined in Article 54(2) of Regulation 1305/2013, are to:

- increase the involvement of stakeholders in the implementation of rural development;
- improve the quality of implementation of rural development programmes;
- inform the broader public and potential beneficiaries on rural development policy and funding opportunities; and
- foster innovation in agriculture, food production, forestry and rural areas.

A comprehensive action plan was developed by the NRN in 2016 and outlined nine work packages including network management, best practice, EU networking, biodiversity and environmental challenges, climate change and the farming community, viability and competitiveness of the farming community, LEADER, the LIFE Programme and the European Innovation Partnership for agricultural productivity and sustainability.

7.u2) Link between judgment criteria, common and additional result indicators used to answer the CEQ

Judgment criteria	Common result indicator	Additional result indicator
Number and types of stakeholders involved in RDP implementation has increased		Number of stakeholders (by type) participating in the implementation of the RDP due to activities of the NRN (including those through LAGs)
The quality of implementation of the RDP has been improved through the activities of the NRN, e.g. - Improved capacity of RDP beneficiaries - Improved evaluation awareness - Lessons from evaluations are taken into account in programme implementation		Number of RDP modifications based on evaluation findings and recommendations from thematic working groups organized by the NRN)
Broader public and potential beneficiaries are aware of the rural development policy and funding opportunities through activities of the NRN		Percentage of RDP implemented projects encouraged by NRN(P) activities)
Broader public and potential beneficiaries are aware of the rural development policy and funding		Number persons that have been informed about the rural development policy and funding opportunities

opportunities through activities of the NRN		through the NRN communication tools)
Innovation in agriculture, food production forestry and rural areas has been fostered by the NRN opportunities		Percentage of innovative projects encouraged by NRN out of the total number of innovative projects supported by the RDP(s)

7.u3) Methods applied

NRN - methods applied

A detailed analysis of indicator data which included an assessment of the impact of various communication tools used by the NRN and a breakdown of the types of best practice case studies developed by it.

Qualitative surveys were used by the NRN as a form of self-assessment and results were harvested from participants following each NRN event.

7.u4) Quantitative values of indicators and data sources

Indicator type	Indicator code and name (unit)	Ratio	Indicator value	Calculated gross value	Calculated net value	Data and information sources
Additional result indicator	Number persons that have been informed about the rural development policy and funding opportunities through the NRN communication tools)	No				
Additional result indicator	Percentage of innovative projects encouraged by NRN out of the total number of innovative projects supported by the RDP(s)	No				
Additional result indicator	Percentage of RDP implemented projects encouraged by NRN(P activities)	No				
Additional result indicator	Number of RDP modifications based on evaluation findings and recommendations from thematic working groups organized by the NRN)	No				
Additional result indicator	Number of stakeholders (by type) participating in the implementation of the RDP due to activities of the NRN (including those through LAGs)	No				

7.u5) Problems encountered influencing the validity and reliability of evaluation findings

N/A.

7.u6) Answer to evaluation question

NRN - findings

The NRN has been allocated a budget of €3 million with €305,000 (10.2%) spent in 2016 on activities across a range of RDP themes. Almost €74,000 of this was allocated to support the setting up and running of the NRN.

An important component of the NRN is the advisory sub-committees. Meetings of 6 advisory sub-committees took place in 2016 and these focused on a number of thematic areas such as farm viability and competitiveness, ecosystem management, natural resources and climate, social inclusion and poverty reduction, European Innovation Partnerships (EIPs) and LEADER. The purpose of the advisory sub-committees is to support effective engagement between NRN and the RDP by bringing together key personnel from government departments, researchers and advisors to ensure that RDP objectives are being implemented effectively. These advisory sub-committee meetings propose to meet biannually and their deliberations will be used to inform the content of future NRN Action Plans.

Communication

Google analytics data was used to monitor the success of the website which went live in February 2016. The website attracted over 12,500 views in its first year and 72% of these were unique visitors. An analysis of the NRN's social media performance in 2016 can be found in the RDP Evaluation Report.. Any content and information produced by the NRN or other material relevant to the RDP is regularly shared on these platforms.

The NRN published 4 quarterly newsletters and 10 monthly e-bulletins on its website in 2016. The newsletters are also circulated to over 1,300 members who have registered with the NRN online or at events organised or attended by the NRN.

The NRN also produced two videos to increase awareness of its work and of RDP themes. One was a short video outlining the role of the NRN and the other was an animation highlighting some key facts and figures of the EIP measure.

Best practice case studies

A total of 45 case studies, some covering multiple themes, were produced by the NRN in 2016. Many of these focused on LEADER projects from the previous RDP period and these have been developed into an interactive story board on the NRN website. The same approach will be adopted to publicise LEADER projects and highlight best practice in each sub regional area in the current programming period. Some 10 case studies focused on multiple themes in the current RDP including projects and actions related to the Green Low-carbon Agri-environment Scheme, the Beef Data Genomics Programme and the Targeted Agricultural Modernisation Scheme. The NRN will continue to compile at least two examples per quarter from all Programme thematic areas.

NRN Self-Assessment

According to the European Evaluation Helpdesk's guidance document on NRN evaluation, self-assessment generates an inside view of NRN's activities and performance. This method assists actors to reflect whether

their activities effectively contribute to the achievement of network objectives. It can and should be interlinked with other analyses to ensure that the collected evidence can be used as a possible information source when evaluating the NRN's efficiency, effectiveness, results and impacts. In order to address this, the NRN has conducted a number of feedback surveys of participants at events and conferences organised by it.

The first annual conference of the NRN took place in October 2016 and covered the theme of European Innovation Partnership for agricultural productivity and sustainability. It provided information on the possibilities for relevant stakeholders to foster competitive and sustainable farming practices, products and processes.

A survey was conducted following the conference to evaluate participants' experiences of the day and to inform the NRN on future conferences. Over 200 RDP stakeholders including farmers, advisors and researchers were in attendance and 70 of these participating stakeholders completed the survey. All participants rated it as good (47%) or excellent (53%). Participants were motivated to attend to gain important information (57%), to meet and network with sector peers (40%) and for the line-up of speakers / content (27%).

Participant feedback suggested that future conferences should offer workshops (77%) and provide exhibition spaces (81%), while 77% of participants were happy with the centralised location of the conference in Athlone. The NRN also carried out a survey on the day to gather information on stakeholders' knowledge of EIPs and their intended next steps to engage in the EIP process. A total of 105 surveys were completed and some of the key findings are outlined below.

The majority of respondents heard about EIP-AGRI as a result of direct communication from the NRN (41%) with the next being communication from the DAFM (18%).

The outcomes and lessons learnt from these self-assessment surveys have contributed to the implementation of EIPs in Ireland. Survey results indicated that 32% of respondents intended to submit a project proposal under the EIP measure with another 22% thinking of submitting a proposal and only 4% of respondents either not submitting or participating in any way.

While over half of the respondents (55%) had already identified a possible partner, 45% of respondents had not. This finding prompted the NRN to offer a 'matching service' for EIP projects whereby they promote any individual that is seeking a partner via the news section of their website and also by emailing the list of stakeholder names collected at the EIP conference as well as those stakeholders known to the department.

7.u7) Conclusions and recommendations

7.u7.a) Conclusion / Recommendation 1

Conclusion:

Conclusions

Irish Rural Link in partnership with the Wheel, NUI Galway and Philip Farrelly and Co. was chosen to run the National Rural Network following a competitive tender process in January 2016. Over €305,000 (10.2%) spent in 2016 on activities across a range of RDP themes and almost €74,000 of this was allocated to support the setting up and running of the NRN.

A dedicated NRN website was established in February 2016 and attracted over 12,500 views in its first year and 72% of these were unique visitors. The NRN published 4 quarterly newsletters and 10 monthly e-bulletins in 2016 that are sent to 1,321 members who have registered with the NRN online or at events organised or attended by the NRN. A total of 45 case studies, some covering multiple themes, were conducted in 2016 and the NRN will continue to compile at least two examples per quarter from all thematic areas of the RDP.

The NRN has conducted a number of feedback surveys on participants at any event or conference that it has organised. The outcomes and lessons learnt from a survey on participants at the NRN's first annual conference on EIPs have contributed to the implementation of EIPs in Ireland. While over half of the respondents (55%) to this survey had already identified a possible partner, 45% of respondents had not. This finding prompted the NRN to offer a 'matching service' for EIP Projects whereby they promote any individual that is seeking a partner via the news section of their website and also by emailing the list of stakeholder names collected at the EIP conference as well as those stakeholders known to DAFM.

Recommendation:

N/A.

7.v) PSEQ01-FA - Programme specific evaluation question linked to programme specific focus areas

This question is marked as not relevant for this AIR version

No PSEQs in Irish RDP.

7.w) PSEQ02-FA - Programme specific evaluation question linked to programme specific focus areas

This question is marked as not relevant for this AIR version

No PSEQs in Irish RDP.

7.x) PSEQ03-FA - Programme specific evaluation question linked to programme specific focus areas

This question is marked as not relevant for this AIR version

No PSEQs in Irish RDP.

7.y) PSEQ04-FA - Programme specific evaluation question linked to programme specific focus areas

This question is marked as not relevant for this AIR version

No PSEQs in Irish RDP.

7.z) PSEQ05-FA - Programme specific evaluation question linked to programme specific focus areas

This question is marked as not relevant for this AIR version

No PSEQs in Irish RDP.

7.aa) PSEQ01-TOPIC - Programme specific evaluation question linked to programme specific evaluation topic

This question is marked as not relevant for this AIR version

N/A.

7.bb) PSEQ02-TOPIC - Programme specific evaluation question linked to programme specific evaluation topic

This question is marked as not relevant for this AIR version

N/A.

7.cc) PSEQ03-TOPIC - Programme specific evaluation question linked to programme specific evaluation topic

This question is marked as not relevant for this AIR version

N/A.

7.dd) PSEQ04-TOPIC - Programme specific evaluation question linked to programme specific evaluation topic

This question is marked as not relevant for this AIR version

N/A.

7.ee) PSEQ05-TOPIC - Programme specific evaluation question linked to programme specific evaluation topic

This question is marked as not relevant for this AIR version

N/A.

8. IMPLEMENTATION OF ACTIONS TO TAKE INTO ACCOUNT THE PRINCIPLES SET OUT IN ARTICLES 5, 7 AND 8 OF REGULATION (EU) No 1303/2013

8.a) Promotion of equality between men and women and non-discrimination (Article 7 of Regulation (EU) No 1303/2013)

The 2014-2020 RDP was designed with gender equality in mind and indeed aims to remove barriers for women in agriculture. The Collaborative Farming Grant Scheme, for example, covers part of the legal, advisory and financial services costs incurred in drawing up the Partnership Agreement required to establish Farm Partnerships. Farm Partnerships aims to address structural issues in Irish farming such as new entrants to dairy, women farmers, young farmers and intergenerational transfer. In addition, the National Rural Network (NRN) has a specific remit to identify challenges and to present best practice models to support the farming community with a particular focus on women in agriculture and rural business.

8.b) Sustainable development (Article 8 of Regulation (EU) No 1303/2013)

The RDP places particular emphasis on the sustainable development of the agriculture sector. In doing so, it aims to contribute to cross-cutting EU objectives on the environment, innovation, and climate change mitigation / adaptation. As the Managing Authority for the Programme, DAFM seeks to ensure that investments made under the RDP complement and leverage activities supported under other EU financial instruments.

The coupling of research and innovation under Horizon 2020 in order to tackle societal challenges and improve economic competitiveness mirrors efforts already made by DAFM in recent years to link agricultural research more closely to on-farm practice. For example, support for technology adoption in the dairy, beef and sheep sectors available since 2010 provided a template for the Knowledge Transfer (KT) scheme in the Programme. In addition, support for European Innovation Partnership (EIP) Operational Groups will assist in establishing closer links between farmers, private sector bodies and research institutions in order to ensure the outputs of research are clearly focused on end-user needs.

Protecting the environment and promoting resource efficiency is one of the thematic objectives flowing from the Europe 2020 process. The environmental cross-cutting objective was a central consideration in the development of the RDP and is clearly reflected in the design of the measures selected for investment. The Programme includes a number of agri-environment-climate measures, notably under Measure 10, that can be grouped thematically together as primarily addressing this objective.

The Green Low-Carbon Agri-Environment Scheme (GLAS) was designed to address the issues of climate change mitigation, water quality and the preservation of priority habitats and species. It works within the framework for environmental sustainability laid down in EU Directives and in national and international targets such as:

- The Water Framework Directive, the Groundwater Directive and the Nitrates Directive; &
- The Habitats Directive, the Birds Directive and the European target of halting the loss of biodiversity by 2020.

Drawing on the experience of agri-environment schemes in the previous RDP period, a number of design

features were put in place to ensure that the environmental benefits accruing from this support are maximised. These include:

- a tiered structure allowing for general environmental needs to be addressed at one level while more targeted needs can also be addressed;
- the introduction of mandatory requirements in relation to record keeping, the involvement of a planner, the use of a nutrient management plan and knowledge transfer;
- a new focus on requiring farmers to undertake the actions of most benefit to their holding; &
- a recognition of the constraints on farmers in Natura 2000 areas and the importance of countering particular habitat and biodiversity threats.

As a complement to the national level GLAS scheme, output-based environmental projects are supported by a locally-led EIP measure, targeting specific challenges of environmental importance that require individual design solutions. These solutions include the introduction of the Burren Programme (under Measure 10) and the locally-led Environmental and Climate Projects (under Measure 16). Once completed, the findings or outcome of an EIP Operational Group will be disseminated through the EIP Network and the National Rural Network. The dissemination of the research findings by the EIP Network will ensure that the lessons learned are communicated beyond local level and thereby contribute to the overall objectives of sustainable agriculture production across the EU.

By its very nature, the Organic Farming Scheme (OFS) under Measure 11 also contributes to sustainable development. Support aimed at encouraging new entrants to the sector and at maintaining those already within the sector will directly lead to increased levels of farming practices that contribute to environmental benefits in areas such as soil and water quality, biodiversity challenges, and reduced levels of synthetic chemicals.

Climate change mitigation and adaptation

Promoting climate change adaptation, risk management and prevention is one of the thematic objectives flowing from the Europe 2020 process. Again, the importance of ensuring that developments in the sector focus on the climate change impacts of particular actions and of the linked challenges facing Ireland was central to the development of the RDP.

As with the environmental cross-cutting theme, this is most obvious in the suite of agri-environment and climate measures. GLAS contains a number of actions which are designed to provide climate change benefits, including support for low emission slurry spreading, minimum tillage, tree planting, new hedgerows, the protection of riverbanks from erosion and the preservation of margins and habitats. This theme is then reinforced in other Programme measures. For example, support under the Targeted Agricultural Modernisation Scheme (TAMS II) for investing in trailing shoe technology strengthens the policy direction of the relevant measures in GLAS.

The Beef Data and Genomics Programme (under Measure 10) also provides clear climate change benefits. Some of the main benefits that will accrue on farms supported by this measure have been identified in research by Teagasc (the Irish Agriculture & Food Development Authority) as the three most cost-efficient climate change mitigation measures. These beneficial outputs of the measure are:

- Support for the establishment of an Economic Breeding Index which allows farmers to identify quality issues at birth and select the highest quality animals;

- Extended grazing periods; and
- Underpinning the selection of higher quality animals suited to Ireland’s grass-based production system.

The schemes (with measure number in brackets) supporting climate change objectives in the Irish RDP are set out below.

Focus Area (FA) 3B - Supporting farm risk prevention and management

KT Groups (M01) / Targeted Advisory Service on Animal Health & Welfare (TASAHW) (M02) / TAMS II - Animal Welfare & Nutrient Storage Scheme (M04) / General EIP (M16)

P4: Restoring, preserving and enhancing ecosystems related to agriculture and forestry (FAs 4A / 4B /4C)

KT Groups (M01) / GLAS training (M01) / Continuous Professional Development (CPD) for Advisors (M02) / TAMS II - Animal Welfare & Nutrient Storage Scheme (M04) / GLAS Traditional Farm Buildings (M07) / GLAS (P4 actions only) (M10) / Burren Programme (M10) / OFS (M11) / Natura (M12) / ANC (M13) / Locally-led EIPs (M16).

P5 - Promoting resource efficiency and supporting the shift towards a low-carbon and climate-resilient economy in the agriculture, food and forestry sectors (FAs 5B / 5D / 5E)

KT Groups (M01) / BDGP training (M01) / CPD for Advisors (M02) / TAMS – Low Emissions Slurry Spreading, Pig & Poultry Investment Scheme (M04) / GLAS (P5 actions only) (M10) / BDGP (M10) / Locally-led EIPs (M16).

FA 6B – LEADER.

8.c) The role of the partners referred to in Article 5 of Regulation (EU) No 1303/2013 in the implementation of the programme

The partners referred to in Art. 5 of Regulation 1303/2013 are:

- competent regional and local authorities;
- competent urban and other public authorities;
- economic and social partners; &
- relevant bodies representing civil society including environmental partners, NGOs and bodies responsible for promoting social inclusion, gender equality and non-discrimination.

Consistent with the multi-level governance approach, these partners are involved in the preparation of progress reports and throughout the preparation and implementation of the Programme, including through their participation in the Monitoring Committee. Membership of the Monitoring Committee is comprised of various stakeholder groups including the relevant bodies listed above. (See Section 2.a for further information on the role played the Monitoring Committee in Programme implementation in 2016.)

Besides their role in the Monitoring Committee, the economic, social, environmental and other partners are also involved in the ongoing implementation of various measures – such as LEADER and the Burren Programme – as described below.

Role of partners in LEADER implementation

LAG Membership and Decision-Making Requirements

In line with government policy, each LAG aims to secure balanced gender representation. This applies to both LCDC-led LAGs and LDC-led LAGs. The LAG decision-making members are responsible for all decisions in relation to the award, or otherwise, of funding for individual projects.

LAGs decision-making procedures ensure that neither the public sector nor any single interest group represent more than 49% of LAG voting rights. Accordingly, at least 51% of the voting must be cast by private sector members. For example, in a nineteen-person LAG, there must be no more than nine public sector members and a minimum of ten from the private sector.

LAG Decisions

For the purposes of securing an inclusive and representative decision-making process, any decisions taken by the LAG must:

- be voted on by at least 50% (rounded up to the nearest person) of LAG members – this applies to decisions validated by the LAG membership after all relevant conflict of interest issues have been addressed;
- be voted on the basis that at least 51% of those voting on a decision are non-public sector partners;
- be carried by majority vote; &
- be non-discriminatory and transparent

The Chairperson does not have a casting vote. Where there is a tied vote, a motion is deemed not to be carried.

LAG Evaluation Committee

Each LAG must establish an Evaluation Committee to assess and evaluate all applications for LEADER funding. The Evaluation Committee is solely responsible for making funding recommendations to the LAG. Committee structure, membership and specific arrangements are a matter for the LAG but it must ensure the integrity of the evaluation process and put in place arrangements that are:

- fair and non-discriminatory – all applicants must be treated equally;
- open and transparent – applicants must be informed of the methodology and approach to evaluating each application and the results of the evaluation should be made available to the applicant together with the LAG's final decision.

The Evaluation Committee membership may vary according to theme, call for applications, etc. Evaluation Committee members cannot be LAG members. Similarly, where the LAG has assigned implementing responsibility to an *Implementing Partner* (as is the case with the 25 LCDC-led LAGs), no person associated with the *Implementing Partner* can be a member of an Evaluation Committee considering a LAG in-house project (i.e. no staff member, no Board member, etc. can be a member of the Evaluation Committee).

Members can be rotated, however, between the Evaluation Committee and the LAG, as required. This will help retain expertise within the LAG and the Evaluation Committee in the medium term.

Role of partners in Burren Programme implementation

The programme is overseen by a Steering Group comprising DAFM, the Department of Culture, Heritage and the Gaeltacht, Teagasc, the National Monuments Service (NMS), Burren advisor and farmer representatives. Other experts attend meetings as and when necessary. In addition to its oversight role, the Steering Group liaises with other government departments and agencies on behalf of the Burren Team in relation to notification / consents / permissions, and provides input to reports and documents needed by the Burren Team. It also assists the Burren Team, as necessary, at conferences, training days and other events.

9. PROGRESS MADE IN ENSURING INTEGRATED APPROACH TO USE EAFRD AND OTHER UNION FINANCIAL INSTRUMENTS

This section applies to AIR(s) 2018 only

10. REPORT ON IMPLEMENTATION OF FINANCIAL INSTRUMENTS (ARTICLE 46 OF REGULATION (EU) No 1303/2013)

30A. Has the ex-ante assessment been started ?	Yes
30B. Has the ex-ante assessment been completed ?	Yes
30. Date of completion of ex-ante assessment	30-06-2017
31.1. Has selection or designation process already been launched ?	No
13A. Has the funding agreement been signed ?	No
13. Date of signature of the funding agreement with the body implementing the financial instrument	-

11. ENCODING TABLES FOR COMMON AND PROGRAMME-SPECIFIC INDICATORS AND QUANTIFIED TARGET VALUES

See Monitoring Annex

Annex II

Detailed table showing implementation level by Focus areas including output indicators

Focus Area 1A							
FA/M	Target indicator name	Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
1A	T1: percentage of expenditure under Articles 14, 15 and 35 of Regulation (EU) No 1305/2013 in relation to the total expenditure for the RDP (focus area 1A)	2014-2016			0.24	6.68	3.60
		2014-2015					

Focus Area 1B							
FA/M	Target indicator name	Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
1B	T2: Total number of cooperation operations supported under the cooperation measure (Article 35 of Regulation (EU) No 1305/2013) (groups, networks/clusters, pilot projects...) (focus area 1B)	2014-2016			328.00	27.11	1,210.00
		2014-2015			86.00	7.11	

Focus Area 1C							
FA/M	Target indicator name	Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
1C	T3: Total number of participants trained under Article 14 of Regulation (EU) No 1305/2013 (focus area 1C)	2014-2016			24,730.00	22.16	111,600.00
		2014-2015			549.00	0.49	

Focus Area 2A							
FA/M	Target indicator name	Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
2A	T4: percentage of agricultural holdings with RDP support for investments in restructuring or modernisation (focus area 2A)	2014-2016	0.57	6.25	0.57	6.25	9.11
		2014-2015	0.37	4.06	0.37	4.06	
FA/M	Output Indicator	Period	Committed	Uptake (%)	Realised	Uptake (%)	Planned 2023
2A	O1 - Total public expenditure	2014-2016	45,618,000.00	26.95	9,215,291.48	5.44	169,250,000.00
M01	O1 - Total public expenditure	2014-2016	6,000,000.00	24.00			25,000,000.00
M01.1	O1 - Total public expenditure	2014-2016					25,000,000.00
M01.1	O12 - Number of participants in trainings	2014-2016					6,650.00
M02	O1 - Total public expenditure	2014-2016	28,000.00	5.60			500,000.00
M02.1	O13 - Number of beneficiaries advised	2014-2016					375.00
M04	O1 - Total public expenditure	2014-2016	39,486,000.00	27.81	9,111,683.06	6.42	142,000,000.00
M04	O2 - Total investment	2014-2016			22,983,472.00	6.47	355,000,000.00
M04.1	O1 - Total public expenditure	2014-2016			9,111,683.06	6.42	142,000,000.00
M04.1	O4 - Number of holdings/beneficiaries supported	2014-2016			795.00	6.24	12,750.00
M16	O1 - Total public expenditure	2014-2016	104,000.00	5.94	103,608.42	5.92	1,750,000.00

Focus Area 2B							
FA/M	Target indicator name	Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
2B	T5: percentage of agricultural holdings with RDP supported business development plan/investments for young farmers (focus area 2B)	2014-2016	0.04	1.40	0.04	1.40	2.86
		2014-2015					
FA/M	Output Indicator	Period	Committed	Uptake (%)	Realised	Uptake (%)	Planned 2023
2B	O1 - Total public expenditure	2014-2016	45,688,000.00	37.37	1,814,998.70	1.48	122,250,000.00
M04	O1 - Total public expenditure	2014-2016	45,377,000.00	37.81	1,504,173.43	1.25	120,000,000.00
M04	O2 - Total investment	2014-2016			2,648,748.38	1.32	200,000,000.00
M04.1	O4 - Number of holdings/beneficiaries supported	2014-2016			59.00	1.48	4,000.00
M16	O1 - Total public expenditure	2014-2016	311,000.00	13.82	310,825.27	13.81	2,250,000.00

Focus Area 3B							
FA/M	Target indicator name	Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
3B	Number of Participants in Knowledge Transfer Groups (focus area 3B) (Persons)	2014-2016					26,600.00
		2014-2015					
FA/M	Output Indicator	Period	Committed	Uptake (%)	Realised	Uptake (%)	Planned 2023
3B	O1 - Total public expenditure	2014-2016	11,015,400.00	19.67	4,588,768.68	8.19	56,000,000.00
M01	O1 - Total public expenditure	2014-2016	6,000,000.00	24.00			25,000,000.00
M01.1	O1 - Total public expenditure	2014-2016					25,000,000.00
M01.1	O12 - Number of participants in trainings	2014-2016					6,650.00
M02	O1 - Total public expenditure	2014-2016	305,400.00	5.09	301,481.08	5.02	6,000,000.00
M02.1	O13 - Number of beneficiaries advised	2014-2016			1,088.00	10.88	10,000.00
M04	O1 - Total public expenditure	2014-2016	4,710,000.00	18.84	4,287,287.60	17.15	25,000,000.00
M04	O2 - Total investment	2014-2016			10,718,219.09	17.15	62,500,000.00

Priority P4							
FA/M	Target indicator name	Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
P4	T12: percentage of agricultural land under management contracts to improve soil management and/or prevent soil erosion (focus area 4C)	2014-2016			12.86	71.15	18.08
		2014-2015			5.96	32.97	
	T10: percentage of agricultural land under management contracts to improve water management (focus area 4B)	2014-2016			12.86	61.50	20.91
		2014-2015			5.96	28.50	
	T9: percentage of agricultural land under management contracts supporting biodiversity and/or landscapes (focus area 4A)	2014-2016			12.86	61.92	20.77
		2014-2015			5.96	28.70	
FA/M	Output Indicator	Period	Committed	Uptake (%)	Realised	Uptake (%)	Planned 2023
P4	O1 - Total public expenditure	2014-2016	601,553,000.00	20.94	1,068,501,207.59	37.19	2,873,000,630.00
M01	O1 - Total public expenditure	2014-2016	6,001,000.00	16.22	59,030.55	0.16	37,000,000.00
M01.1	O1 - Total public expenditure	2014-2016			59,030.55	0.16	37,000,000.00
M01.1	O12 - Number of participants in trainings	2014-2016			556.00	0.98	56,650.00
M02	O1 - Total public expenditure	2014-2016	59,000.00	5.90			1,000,000.00
M02.1	O13 - Number of beneficiaries advised	2014-2016					750.00
M04	O1 - Total public expenditure	2014-2016	7,374,000.00	6.47	14,067,302.07	12.34	114,000,000.00
M04	O2 - Total investment	2014-2016			14,074,787.07	6.70	210,000,000.00
M04.4	O3 - Number of actions/operations supported	2014-2016					9,700.00
M07	O1 - Total public expenditure	2014-2016	775,000.00	12.92	725,488.27	12.09	6,000,000.00
M10	O1 - Total public expenditure	2014-2016	159,500,000.00	13.14	397,415,543.39	32.74	1,213,750,630.00
M10.1	O5 - Total area (ha)	2014-2016			683,268.64	54.85	1,245,809.00
M11	O1 - Total public expenditure	2014-2016	8,155,000.00	14.56	5,843,994.97	10.44	56,000,000.00
M11.1	O5 - Total area (ha)	2014-2016			24,000.00	150.00	16,000.00
M11.2	O5 - Total area (ha)	2014-2016			26,000.00	55.46	46,880.00
M12	O1 - Total public expenditure	2014-2016	18,835,000.00	25.71	41,681,709.17	56.90	73,250,000.00
M12.1	O5 - Total area (ha)	2014-2016			67,297.65	36.18	186,000.00
M13	O1 - Total public expenditure	2014-2016	400,854,000.00	29.26	608,708,139.17	44.43	1,370,000,000.00
M13.2	O5 - Total area (ha)	2014-2016			2,084,920.00	61.29	3,402,000.00
M13.3	O5 - Total area (ha)	2014-2016			8,913.00	59.42	15,000.00
M16	O1 - Total public expenditure	2014-2016	0.00	0.00			2,000,000.00

Focus Area 5B							
FA/M	Target indicator name	Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
5B	T15: Total investment for energy efficiency (€) (focus area 5B)	2014-2016	30,260.60	0.06	30,260.60	0.06	50,000,000.00
		2014-2015					
FA/M	Output Indicator	Period	Committed	Uptake (%)	Realised	Uptake (%)	Planned 2023
5B	O1 - Total public expenditure	2014-2016	1,008,000.00	5.04	12,104.24	0.06	20,000,000.00
M04	O1 - Total public expenditure	2014-2016	1,008,000.00	5.04	12,104.24	0.06	20,000,000.00
M04	O2 - Total investment	2014-2016			30,260.60	0.06	50,000,000.00
M04.1 M04.2 M04.3	O3 - Number of actions/operations supported	2014-2016			2.00	0.50	400.00

Focus Area 5D								
FA/M	Target indicator name	Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023	
5D	T18: percentage of agricultural land under management contracts targeting reduction of GHG and/or ammonia emissions (focus area 5D)	2014-2016			7.87	72.95	10.79	
		2014-2015			4.73	43.84		
	T17: percentage of LU concerned by investments in live-stock management in view of reducing GHG and/or ammonia emissions (focus area 5D)	2014-2016				0.08	40.26	0.20
		2014-2015						
FA/M	Output Indicator	Period	Committed	Uptake (%)	Realised	Uptake (%)	Planned 2023	
5D	O1 - Total public expenditure	2014-2016	120,579,050.00	35.03	89,599,173.85	26.03	344,200,000.00	
M01	O1 - Total public expenditure	2014-2016	14,895,000.00	38.09	8,471,401.00	21.67	39,100,000.00	
M01.1	O1 - Total public expenditure	2014-2016			8,471,401.00	21.67	39,100,000.00	
M01.1	O12 - Number of participants in trainings	2014-2016			24,174.00	58.04	41,650.00	
M02	O1 - Total public expenditure	2014-2016	28,000.00	5.60			500,000.00	
M02.1	O13 - Number of beneficiaries advised	2014-2016					375.00	
M04	O1 - Total public expenditure	2014-2016	6,041,000.00	151.03	494,256.08	12.36	4,000,000.00	
M04	O2 - Total investment	2014-2016			1,257,989.58	12.58	10,000,000.00	
M04.1 M04.3 M04.4	O3 - Number of actions/operations supported	2014-2016			46.00	18.40	250.00	
M04.1 M04.3 M04.4	O8 - Number of Livestock Units supported (LU)	2014-2016			4,735.00	41.17	11,500.00	
M10	O1 - Total public expenditure	2014-2016	99,615,050.00	33.25	80,633,516.77	26.91	299,600,000.00	
M10.1	O5 - Total area (ha)	2014-2016			392,628.92	72.91	538,490.00	
M16	O1 - Total public expenditure	2014-2016	0.00	0.00			1,000,000.00	

Focus Area 5E							
FA/M	Target indicator name	Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023
5E	T19: percentage of agricultural and forest land under management contracts contributing to carbon sequestration and conservation (focus area 5E)	2014-2016			0.05	15.72	0.32
		2014-2015					
FA/M	Output Indicator	Period	Committed	Uptake (%)	Realised	Uptake (%)	Planned 2023
5E	O1 - Total public expenditure	2014-2016	8,600,000.00	11.50	8,590,536.94	11.48	74,800,000.00
M10	O1 - Total public expenditure	2014-2016	8,600,000.00	11.50	8,590,536.94	11.48	74,800,000.00
M10.1	O5 - Total area (ha)	2014-2016			3,012.67	16.39	18,385.00

Focus Area 6B								
FA/M	Target indicator name	Period	Based on approved (when relevant)	Uptake (%)	Realised	Uptake (%)	Target 2023	
6B	T23: Jobs created in supported projects (Leader) (focus area 6B)	2014-2016					3,100.00	
		2014-2015						
	T22: percentage of rural population benefiting from improved services/infrastructures (focus area 6B)	2014-2016						0.00
		2014-2015						
	T21: percentage of rural population covered by local development strategies (focus area 6B)	2014-2016				62.12	94.50	65.74
		2014-2015						
FA/M	Output Indicator	Period	Committed	Uptake (%)	Realised	Uptake (%)	Planned 2023	
6B	O1 - Total public expenditure	2014-2016	160,037,000.00	64.01	1,971,040.83	0.79	250,000,000.00	
M19	O1 - Total public expenditure	2014-2016	160,037,000.00	64.01	1,971,040.83	0.79	250,000,000.00	
M19	O18 - Population covered by LAG	2014-2016			2,334,442.00	94.50	2,470,308.00	
M19	O19 - Number of LAGs selected	2014-2016			28.00	100.00	28.00	
M19.1	O1 - Total public expenditure	2014-2016			1,131,411.35	161.63	700,000.00	
M19.2	O1 - Total public expenditure	2014-2016					194,350,000.00	
M19.3	O1 - Total public expenditure	2014-2016					10,000,000.00	
M19.4	O1 - Total public expenditure	2014-2016			839,629.48	1.87	44,950,000.00	

Annex III

Summary table of quantified results

Result indicator name and unit (1)	Target value (2)	Main value (3)	Secondary contribution (4)	LEADER/CLLD contribution (5)	Total RDP (6)=3+4+5
R1 / T4: percentage of agricultural holdings with RDP support for investments in restructuring or modernisation (focus area 2A)	9.11	0.57	N/A	0.00	0.57
R2: Change in Agricultural output on supported farms/AWU (Annual Work Unit) (focus area 2A)*	N/A				
R3 / T5: percentage of agricultural holdings with RDP supported business development plan/investments for young farmers (focus area 2B)	2.86	0.04	N/A	0.00	0.04
R4 / T6: percentage of agricultural holdings receiving support for participating in quality schemes, local markets and short supply circuits, and producer groups/organisations (focus area 3A)			N/A	0.00	0.00
R5 / T7: percentage of farms participating in risk management schemes (focus area 3B)			N/A	0.00	0.00
R6 / T8: percentage of forest/other wooded area under management contracts supporting biodiversity (focus area 4A)		0.00	N/A	0.00	0.00
R7 / T9: percentage of agricultural land under management contracts supporting biodiversity and/or landscapes (focus area 4A)	20.77	12.86	N/A	0.00	12.86
R8 / T10: percentage of agricultural land under management contracts to improve water management (focus area 4B)	20.91	12.86	N/A	0.00	12.86
R9 / T11: percentage of forestry land under management contracts to improve water management (focus area 4B)		0.00	N/A	0.00	0.00
R10 / T12: percentage of agricultural land under management contracts to improve soil management and/or prevent soil erosion (focus area 4C)	18.08	12.86	N/A	0.00	12.86
R11 / T13: percentage of forestry land under management contracts to improve soil management and/or prevent soil erosion (focus area 4C)		0.00	N/A	0.00	0.00
R12 / T14: percentage of irrigated land switching to more efficient irrigation system (focus area 5A)			N/A	0.00	0.00
R13: Increase in efficiency of water use in agriculture in RDP supported projects (focus area 5A)*	N/A				
R14: Increase in efficiency of energy use in agriculture and food-processing in RDP supported projects (focus area 5B)*	N/A				
R15: Renewable energy produced from supported projects (focus area 5C)*	N/A				

R16 / T17: percentage of LU concerned by investments in live-stock management in view of reducing GHG and/or ammonia emissions (focus area 5D)	0.20	0.08	N/A	0.00	0.08
R17 / T18: percentage of agricultural land under management contracts targeting reduction of GHG and/or ammonia emissions (focus area 5D)	10.79	7.87	N/A	0.00	7.87
R18: Reduced emissions of methane and nitrous oxide (focus area 5D)*	N/A				
R19: Reduced ammonia emissions (focus area 5D)*	N/A				
R20 / T19: percentage of agricultural and forest land under management contracts contributing to carbon sequestration and conservation (focus area 5E)	0.32	0.05	N/A	0.00	0.05
R21 / T20: Jobs created in supported projects (focus area 6A)		0.00	N/A	0.00	0.00
R22 / T21: percentage of rural population covered by local development strategies (focus area 6B)	65.74	62.12	N/A		62.12
R23 / T22: percentage of rural population benefiting from improved services/infrastructures (focus area 6B)	0.00	0.00	N/A	0.00	0.00
R24 / T23: Jobs created in supported projects (Leader) (focus area 6B)	3,100.00	0.00	N/A		0.00
R25 / T24: percentage of rural population benefiting from new or improved services/infrastructures (ICT) (focus area 6C)		0.00	N/A	0.00	0.00

Documents

Document title	Document type	Document date	Local reference	Commission reference	Checksum	Files	Sent date	Sent By
AIR Financial Annex 2014IE06RDNP001	Financial annex (System)	12-10-2017		Ares(2018)2721370	1029790932	AIRfinancialAnnex2014IE06RDNP001_en.pdf	25-05-2018	nkenbria

