



**A technical review of policy  
support for the Isle of  
Man's Future Agriculture  
and Food Strategy**

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# Contents

<b>1.</b>	<b>Executive Summary .....</b>	<b>7</b>
<b>2.</b>	<b>Isle of Man Statistics .....</b>	<b>10</b>
2.1.	Introduction .....	10
2.2.	The Isle of Man Population .....	10
2.3.	Isle of Man Economy .....	11
2.4.	Agriculture on the Isle of Man .....	12
2.5.	Farm Sectors on the Island: .....	14
2.6.	Comments on sectoral production in the Isle of Man.....	17
<b>3.</b>	<b>Feedback from Farmer survey .....</b>	<b>21</b>
3.1.	Breakdown .....	21
<b>4.</b>	<b>Agri-Food Production and Promotion on the Isle of Man .....</b>	<b>28</b>
4.1.	The importance of Agri-Food Processors.....	28
4.2.	The need for structured engagement.....	28
4.3.	The importance and type of support for the industry.....	29
4.4.	Encouraging the start-up and growth of food businesses .....	31
4.5.	Promotion of IOM Food on and off the Island.....	34
<b>5.</b>	<b>Aims, Policies, Strategies for IOM .....</b>	<b>35</b>
5.1.	Aims and Strategies.....	35
5.2.	Strategies.....	37
5.3.	Isle of Man Food Policy .....	44
5.4.	Sector Competitiveness.....	44
5.5.	Food Security.....	53
<b>6.</b>	<b>Effectiveness of current polices .....</b>	<b>60</b>
6.1.	General views of policy on the Isle of Man .....	60
6.2.	The need to join up policies and strategies.....	61

<b>7.</b>	<b>Isle of Man Support Schemes .....</b>	<b>62</b>
7.1.	Environmental Development .....	62
7.2.	Supporting Active Farmers .....	62
7.3.	Productivity Development.....	63
7.4.	Business Investment.....	63
7.5.	Agriculture & Fisheries Grant Scheme .....	63
7.6.	Agri-Environment Scheme .....	68
<b>8.</b>	<b>Agricultural and Agri-Food production on IOM .....</b>	<b>77</b>
8.1.	Commercial background.....	77
8.2.	Scientific Background .....	77
8.3.	Key production challenges for Agriculture .....	77
8.4.	Other challenges for agriculture .....	79
8.5.	Key production challenges for Agri-Food .....	79
<b>9.</b>	<b>The Environment on the IOM.....</b>	<b>80</b>
9.1.	Low level of intensive production .....	81
9.2.	Biodiversity on the Isle of Man .....	81
9.3.	On the ground opinion.....	81
9.4.	Climate Change: Global Warming & Mitigation.....	85
9.5.	Use of Climate Change Support .....	86
<b>10.</b>	<b>Competing Demands.....</b>	<b>88</b>
10.1.	The Moral Arguments around Agriculture .....	88
10.2.	The demand for increased food .....	88
10.3.	The demand for reduced impact.....	89
<b>11.</b>	<b>Components required to deliver against aims and strategies .....</b>	<b>90</b>
11.1.	Components .....	90
<b>12.</b>	<b>Factors Influencing Future Agricultural Strategy and Policy .....</b>	<b>95</b>
12.1.	Principles of Good Policy Creation.....	97

<b>13.</b>	<b>Key practices from other jurisdictions .....</b>	<b>99</b>
13.1.	Northern Ireland.....	99
13.2.	Scotland .....	104
13.3.	England.....	106
13.4.	Wales.....	107
13.5.	New Zealand.....	108
13.6.	The Netherlands.....	112
13.7.	Ireland .....	115
13.8.	Chile .....	118
13.9.	Iceland .....	119
13.10.	Common Factors Across a Number of Countries.....	119
13.11.	Enabling Research Support .....	120
<b>14.</b>	<b>Opportunities for Alternative Agriculture.....</b>	<b>121</b>
14.1.	Energy Crops.....	121
14.2.	Production of protein crops .....	121
14.3.	Carbon farming and trading .....	121
14.4.	Vertical farming.....	121
<b>15.</b>	<b>Preparation for a Connected Agriculture.....</b>	<b>122</b>
15.1.	Use of drones .....	122
15.2.	Robotisation .....	122
15.3.	Automated data collection .....	122
<b>16.</b>	<b>Identifying Targets and Delivering Progress.....</b>	<b>123</b>
16.1.	Ideal targets .....	123
16.2.	Government.....	124
<b>17.</b>	<b>Enabling raised performance at farm level.....</b>	<b>125</b>
17.1.	Physical Performance of the Farm .....	125
17.2.	Environmental Performance of the Farm .....	127
17.3.	Practice Change to improve environmental performance.....	128
17.4.	Enforcement .....	128

17.5.	Thinking Differently: Actions for the Isle of Man .....	129
17.6.	Components of effective delivery .....	132
17.7.	Farm Support Payments .....	133
<b>18.</b>	<b>SWOT Analysis .....</b>	<b>135</b>
18.1.	Strengths.....	135
18.2.	Weaknesses.....	135
18.3.	Opportunities .....	135
18.4.	Threats .....	136
<b>19.</b>	<b>A Vision for the Isle of Man .....</b>	<b>137</b>
<b>20.</b>	<b>Conclusions .....</b>	<b>139</b>
<b>21.</b>	<b>Final Recommendations .....</b>	<b>143</b>
	<b>Recommendation 1: Join up strategies and ensure joint working .....</b>	<b>143</b>
21.1.	Recommendation 3: Establish baselines for farm performance, including productivity and environmental performance.....	143
21.2.	Recommendation 4: Deliver productivity and environmental advice in one package .....	144
21.3.	Deliver a package which can prove and improve the overall performance of the Island .....	144
21.4.	Recommendation 5: Position the Island’s agriculture as globally leading and build marketing on the back of this.....	145
21.5.	Recommendation 6: Attract international research and research funding.....	145
21.6.	Recommendation 7: Where possible move towards the adoption of nature positive agriculture .....	145
21.7.	Recommendation 8: In assessing farm climate performance consider Global Warming Potential as well as straight carbon assessment, and include sequestration in any calculation .....	145
21.8.	Recommendation 9: Build Strategic alliances with partners in other jurisdictions	145
21.9.	Consider the implementation of agri-business support via video conferencing – enable business networking with other businesses across the British Isles.....	145
21.10.	Signpost and highlight training which can bring benefit to agricultural and agri-food business.....	146

**22. Making it happen..... 147**

**23. Consultation List.....148**



# 1. Executive Summary

The Isle of Man is unique, with potential which is genuinely exciting. Due to its compact size and connected industries, the island can achieve things which other areas cannot, particularly at the interface between profitable food production and the delivery of high environmental performance.

The Manx Island biosphere designation makes it ideal to develop the world's first carbon-neutral agri-food sector. The island can and should position itself as an exemplar of productive and environmentally sustainable agriculture which is world-leading.

This report has studied existing strategies and policies and investigated their practical implementation. It details several recommendations for action. Over 150 individuals and/or organisations fed information into the review, with about two thirds of these being farmers. Feedback was generally consistent across all sectors.

We have concluded that the on-island strategies and aims are broadly correct, and that the financial support is focused in appropriate areas. However, there was strong feedback that some of the application and practices require improvement, and the report has identified areas for attention.

We have determined that direct payments to active farms should continue but that this should only be focussed on the production of environmental goods and biodiversity improvement, and for investment in actions which will improve economic sustainability, productivity and resource efficiency at farm level.

Our analysis shows that current capital grant schemes are mainly operating in the right areas, and incentivising appropriate actions and practice, but that there is some concern at how these are apportioned.

As a result of the consultation process, we discovered a considerable degree of shared aims between the government, the farming industry, and environmental and nature focussed organisations. Even though relationships between these groups were often described as strained, there is genuine merit in examining ways for these groups to better work together to set joint targets and to delivery activity which raises economic profitability at farm level, and which delivers high-quality environmental goods.

Multiple individuals and organisations expressed concern that, whilst the targets and policies are correct, there is an absence of effective joint working between government departments and that effort should be put into coordinating targets, activities and supports to ensure the island reaches its aims. Therefore, joint, clear and specific target setting should be introduced for Government, Agriculture and Agri-Food sectors, with published milestones and outcomes. All Government departments which can impact the targets should be engaged in the development of the actions for delivery.

In order to better capitalise on opportunities, the Isle of Man Government should implement an

overall land management strategy that will consider sparing small parcels of land across the island as 'bio-banks' as well as protecting agricultural grade land.

Consideration should also be given to the creation of a programme that delivers whole island soil analysis, LiDAR analysis and environmental baselining. We believe the island is ideally placed to attract international research funding due to its closed loop agricultural & environmental systems. We believe that attempts should be made to create a platform which enables the implementation of national and international research programmes which can develop the agricultural and environmental attributes of the island, making it world-leading. International funding should be sought for this. Effective delivery of research has the potential to raise the island's international profile for high environmental performance within the context of a productive agricultural sector.

To reach its environmental goals, a focus on practical delivery, especially around Knowledge Transfer to farmers is essential. The intentions and design of the current Knowledge Transfer programme are good, but development is needed. There is a genuine need to link production advice and environmental advice, and to focus on the delivery of economically and environmentally sustainable farms.

Although there are already a number of demonstration farms on the island, stakeholders expressed concern that delivery didn't have enough focus on Manx agricultural practice as opposed to that in England stating that what has been delivered thus far did not meet expectations or further their current knowledge. Many farmers expressed the desire to be able to view and learn more advanced and cutting-edge practices to cater for both high and medium performers on the island. This will allow most farms on the island to see practice that is directly applicable to their farm business and should increase the uptake of appropriate advanced farming techniques.

The principle of 'you can't manage what you don't measure' applies to the island, and the report focuses heavily on the need for ongoing collection of baseline measurements. Measurement and comparison is essential, including farm physical performance, productivity, environmental outputs and biodiversity status. Support schemes should reward existing environmental features as well as new ones and should incentivise the uptake of skills building and data collection across all areas of farm practice.

Food security is a key concern on the island and needs careful management, with government and commercial entities both having a role to play in ensuring on-island food security. This can be achieved through the encouragement of home production, by ensuring that free trade flows are available to bring products onto the island, and by ensuring on-island storage of specific products.

The extremely high cost of transportation of products on and off the island was raised by multiple stakeholders as a major concern. This will require more investigation but it is clear that these costs inhibit exports while raising the costs of importation, and raise prices to the



consumer.

The island needs to maximise home consumption of its own produced products to provide high-quality, environmentally friendly, nutritionally dense foods for the Manx population. For finished product sold off the island, very niche, high-value markets off the island should be targeted, but it is essential that the island develops reliable supply, with proven environmental credentials and good story telling. Reliability and quality of supply are essential.

## 2. Isle of Man Statistics

### 2.1. Introduction

The Isle of Man covers 141,440 acres of which 107,210 (75%) are utilised for agriculture and supported by the Agricultural Development Scheme. Land varies from the undulating south with rich soils supporting mixed farming, to the central uplands with thin soils supporting extensive beef and sheep production and the flat northern plains used for arable and vegetable production. The Island is ideal for grass growing and livestock represents the mainstay of the agricultural economy. Traditional family farms, smaller fields and generally extensive production methods mean that farming continues to shape a landscape much valued by residents and visitors.

The Island has one abattoir, one creamery and one flour mill. All milling wheat grown on the Island goes to the Mill which produces a range of flours sold on the island. The Creamery processes most liquid milk, producing butter, cheese and cream. Liquid milk is supplied by the Creamery and two licensed producers who sell direct to customers. The majority of livestock are processed on at the abattoir though there are a significant number of live exports for slaughter and breeding.

### 2.2. The Isle of Man Population<sup>1</sup>

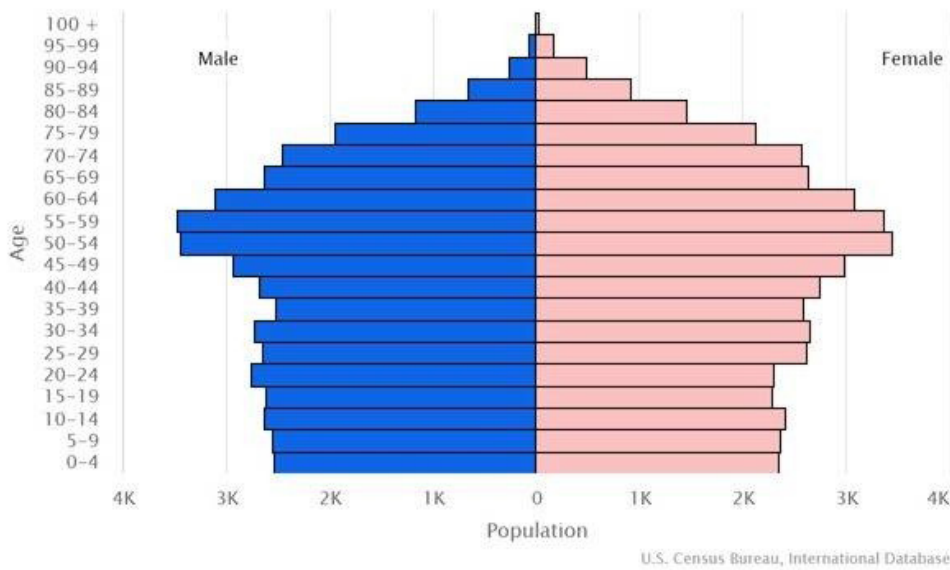
The majority of information in this section is taken from government statistics, and on-island information. In one case, information from the US Census Bureau is used because their data graphic was useful.

According to the 2021 census, the Isle of Man has a population of just over 82,000 people. Island income is around £5.4 billion and annual weekly household income (as of 2019) is just under £1100 per week. The Isle of Man Census breaks the population down as follows:

- **0-14 years:** 16.28% (male 7,688/female 7,046)
- **15-24 years:** 11.02% (male 5,328/female 4,642)
- **25-54 years:** 37.8% (male 17,080/female 17,131)
- **55-64 years:** 13.82% (male 6,284/female 6,219)
- **65 years and over:** 21.08% (2020 est.) (male 9,023/female 10,058)

The following graph is taken from the US Census Bureau and visually demonstrates the 2022 population. It can be seen that the population of the Isle of Man is relatively old, in world terms, with a median age of 44.6 years (43.6 for men and 45.6 for women).

<sup>1</sup> <https://www.gov.im/media/1373781/isle-of-man-in-numbers-2021-090821.pdf>



### 2.3. Isle of Man Economy

The Isle of Man has a vibrant economy which is low tax and based primarily on insurance, online gaming, communications technology and offshore banking. In terms of gross value, the agricultural and agri-food sectors are much smaller, but are still critical to the economy for a number of reasons, including their financial contribution, their distribution of wealth to more rural areas, and their care for the landscape and environment which makes the island a very attractive place for those working in the financial and technical sectors to relocate to, and which attracts tourists to the island.

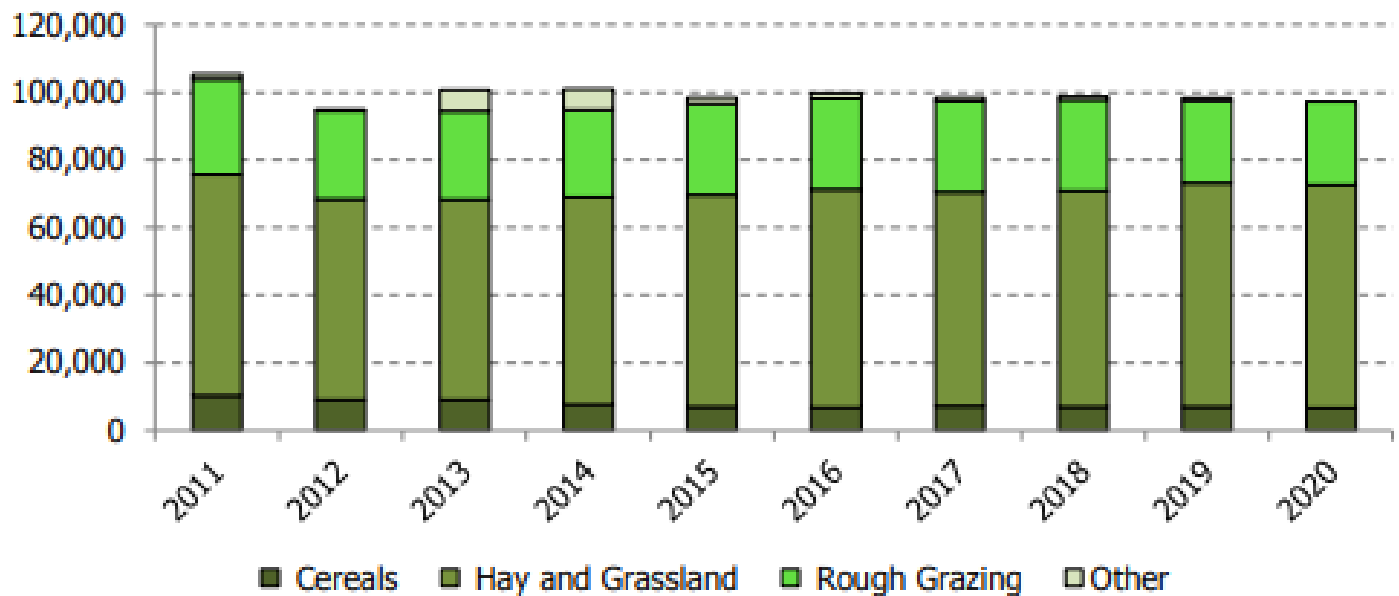
**The Tynwald has approved a long-term strategy for development of the economy. This strategy includes the following targets;**

- Create and fill 5,000 new jobs across new, enabling, and existing key sectors by 2032, reaching an overall GDP of £10bn
- Further develop the infrastructure and services of our community to plan for an estimated population of 100,000 by 2037
- To generate over £200m of additional annual income to reinvest in services and quality of life by 2032
- To substantially decarbonise the services parts of the Island's economy by 2030, supporting an overall reduction of 35% in the Island's greenhouse gas emissions



### 2.4.3. Agricultural Land use<sup>4</sup>

The majority of agricultural land on the Isle of Man is dedicated to livestock production, with 65,875 acres categorised as hay and grassland and 25,372 acres categorised as rough grazing. This is in contrast with cereals to which 9,125 acres were dedicated.



### 2.4.4. Farm Labour

In terms of farm labour, the majority of work falls to the principal farmer and partners (60.56%), with the remaining labour carried out by paid (20.49%) and other (22.28%) workers. In the available census data, labour by spouses wasn't collected, however it is likely that this was included within the Principal Farmers and Partners category as farming can be viewed as a family business with all members of the family providing labour to some degree.

Farm Labour	2016	2017	2018	2019	2020	2021	2022	Annual Change
Principal Farmers & Partners	492	478	441	461	460	473	475	0.4%
Spouse								
Paid Workers	142	160	148	165	141	160	154	(3.8%)
Other Workers	147	158	142	147	166	174	212	21.8%
<b>Total Farm Labour</b>	<b>781</b>	<b>796</b>	<b>731</b>	<b>773</b>	<b>767</b>	<b>807</b>	<b>841</b>	<b>4.2%</b>

4 <https://www.gov.im/media/1378173/census-data-2015-2022.pdf>

Farm Labour	2016	2017	2018	2019	2020	2021	2022
Principal Farmers & Partners	63%	61.20%	56.47%	59.03%	58.90%	60.56	60.82
Spouse	0%	0%	0%	0%	0%	0%	0%
Paid Workers	18.18%	20.49%	18.95%	21.13%	18.05%	20.49%	19.72%
Other Workers	18.82%	20.23%	18.18%	18.82%	21.25%	22.28%	27.14%

## 2.5. Farm Sectors on the Island:

### 2.5.1. Cattle

As of 2022, there are an estimated 26,546 cattle on the Island, a slight decline (0.7%) from the previous year. These are broken down into dairy cattle, beef cows & heifers, bulls and other cattle.

### 2.5.2. Dairy

The number of dairy cattle has remained relatively stable with slight increases in numbers over the previous years.

	2015	2016	2017	2018	2019	2020	2021	2022
Cows & Heifers that have calved	3768	4117	4195	4257	4273	4329	4232	4267
Replacement Heifers in first calf	960	980	1008	832	831	687	668	811
Heifers over 1yr to be put to bull	565	912	711	798	749	920	901	1024
<b>Total Dairy Cows &amp; Heifers</b>	<b>5293</b>	<b>6009</b>	<b>5914</b>	<b>5887</b>	<b>5853</b>	<b>5936</b>	<b>5801</b>	<b>6102</b>

### 2.5.3. Beef

The number of beef cattle on the Isle of Man is declining, with a 27% decrease in beef cows and heifers since 2015, although the numbers of steers for finishing or sale has so far remained relatively constant. It does lead, however, to some concerns about the future sustainability of the beef sector, with the ongoing decline in cow and heifer numbers for breeding future beef stock.



	2015	2016	2017	2018	2019	2020	2021	2022
Cows & Heifers that have calved	7147	7208	6566	6476	6018	5958	5730	5421
Replacement Heifers in first calf	513	392	447	352	335	338	326	320
Heifers over 1yr to be put to the bull	1142	1155	975	972	1053	859	786	690
<b>Total Beef Cows &amp; Heifers</b>	<b>8802</b>	<b>8755</b>	<b>7988</b>	<b>7800</b>	<b>7406</b>	<b>7155</b>	<b>6842</b>	<b>6431</b>

<b>Total Bulls</b>	<b>412</b>	<b>416</b>	<b>407</b>	<b>405</b>	<b>374</b>	<b>384</b>	<b>357</b>	<b>362</b>
<b>Other Cattle</b>								
Heifers for finishing or sale	3204	2945	2624	2674	2718	2957	2721	2642
Young Bulls for finishing or sale	719	610	321	378	416	396	288	132
Steer for finishing or sale	2916	3227	3216	3157	2823	3106	3213	3055
Cattle Under 1 year	8096	7812	7670	7350	7265	7691	7518	7822
<b>Total Other Cattle</b>	<b>14935</b>	<b>14594</b>	<b>13831</b>	<b>13559</b>	<b>13222</b>	<b>14150</b>	<b>13740</b>	<b>13651</b>

#### 2.5.4. Sheep and Lambs

Sheep and Lambs make up the majority of livestock within the Isle of Man, and numbers have remained relatively consistent over the years recorded.

		2015	2016	2017	2018	2019	2020	2021	2022
Sheep	Ewes retained for breeding this season	51317	48835	50186	48191	49008	47487	47330	47946
	Replacement Shearling Ewes (for tugging this year)	11358	10618	9532	9916	8341	8991	9424	9956
	Rams Kept for Service	2254	2226	2136	1924	1963	1913	1830	1829
	Replacement ram lambs	879	762	766	683	629	679	661	810
	Replacement Ewe Lambs	9512	7959	8947	8698	8498	8904	9541	9039
	<b>Total</b>	<b>75320</b>	<b>70400</b>	<b>71567</b>	<b>69412</b>	<b>68439</b>	<b>67974</b>	<b>68786</b>	<b>69580</b>
	Other sheep and lambs	50621	48797	54018	50139	53965	53857	51012	51496
	<b>Total sheep</b>	<b>125941</b>	<b>119197</b>	<b>125585</b>	<b>119551</b>	<b>122404</b>	<b>121831</b>	<b>119798</b>	<b>121076</b>

The number of Loaghtans within the Isle of Mans Flocks has seen a considerable decline in numbers (56%) when compared with 2015. Numbers may also be larger than recorded, where

small numbers may not be recorded within larger flocks made up of more commercial breeds.

	2015	2016	2017	2018	2019	2020	2021	2022
Ewes retained for breeding	2802	2875	2619	2542	2683	1573	2547	2321
Replacement Shearling Ewes (for tuppung this year)	430	563	445	358	378	133	315	314
Rams Kept for Service	72	78	70	75	90	65	106	72
Sheep and lambs under 1 year old	791	848	851	822	984	11	16	31
Other Sheep and Lambs	2390	1400	1521	1676	1187	161	308	122
<b>Total Loaghtans</b>	<b>6485</b>	<b>5764</b>	<b>5506</b>	<b>5473</b>	<b>5322</b>	<b>1943</b>	<b>3292</b>	<b>2860</b>

### 2.5.5. Pigs

The total number of pigs has remained relatively consistent over the years.

	2015	2016	2017	2018	2019	2020	2021	2022
Sows in Pig	173	145	122	107	109	102	124	147
Gilts in Pig	31	24	35	35	10	39	20	29
Other Breeding Sows	70	64	47	55	56	58	51	38
Boars	19	30	13	18	39	18	20	20
Total	293	263	217	215	214	217	215	234
Other Pigs intended for slaughter or sale	1961	1530	1560	1622	1602	1836	1413	1758
<b>Total</b>	<b>1961</b>	<b>1530</b>	<b>1560</b>	<b>1622</b>	<b>1602</b>	<b>1836</b>	<b>1413</b>	<b>1758</b>
<b>Total Pigs</b>	<b>2254</b>	<b>1793</b>	<b>1777</b>	<b>1837</b>	<b>1816</b>	<b>2053</b>	<b>1628</b>	<b>1992</b>

### 2.5.6. Other Livestock

	2015	2016	2017	2018	2019	2020	2021	2022
Free Range	12959	12834	13382	14502	14636	15260		13,570
Battery Hens								
Other	139	90	40	34	141	206	309	131
Broiler (Table chicken)	0	0	10	20	28	13	-	-
Total Poultry	13098	12924	13529	14556	14805	15479		13,701
Milk Goats	21	29	9	20	47	60	63	60
Other Goats								
Other Goats over 6 months old	400	202	195	186	176	131	111	88
Total Goats	231	204	206	206	223	191	174	148

### 2.5.7. Arable

		2015	2016	2017	2018	2019	2020	2021	2022	Annual Change
Cereals	Winter Wheat	1037	1,102	1096	932	1007	795	914	928	1.6%
	Spring Wheat	293	188	192	114	175	246	192	180	(6.2%)
	Winter Barley	791	591	727	575	951	752	720	991	37.6%
	Spring Barley	3153	3,374	3346	3517	3247	3056	3132	3063	(2.2%)
	Oats	1538	1,340	1421	1156	1135	1034	1129	1105	(2.1%)
	Maize	84	84	90	94	92	134	243	184	(24.3%)
	Triticale/Rye		6	12						
	Other Cereals - 2018 onwards all other combinable	173	128	138	249	217	383	283	451	59.4%
	<b>Total cereals</b>	<b>7069</b>	<b>6,813</b>	<b>7022</b>	<b>6636</b>	<b>6824</b>	<b>6401</b>	<b>6613</b>	<b>6903</b>	<b>4.4%</b>
Other Forage Crops	Forage Crops		739	977	708	419	567	464	891	92.0%
	Other Forage Crops		243	59	346	325	706	451	545	21.0%
	<b>Total Other Forage Crops</b>	<b>1845</b>	<b>982*</b>	<b>1036</b>	<b>1054</b>	<b>744</b>	<b>1272</b>	<b>915</b>	<b>1437</b>	<b>57.0%</b>
Pulses	For Combining					492	543	477	520	8.8%
	For Forage									
	<b>Total Pulses</b>	<b>864</b>	<b>621</b>	<b>508</b>	<b>537</b>	<b>492</b>	<b>543</b>	<b>477</b>	<b>520</b>	<b>8.8%</b>
	Total Potatoes	268	230	240	249	252	257	233	220	(5.6%)
	Vegetables	54	57	47	51	57	67	56	45	(18.8%)
	<b>Total Horticulture</b>	<b>54</b>	<b>57</b>	<b>47</b>	<b>51</b>	<b>57</b>	<b>67</b>	<b>56</b>	<b>45</b>	<b>(18.8%)</b>
	<b>Total Arable Area</b>	<b>10100</b>	<b>9006</b>	<b>8853</b>	<b>8527</b>	<b>8369</b>	<b>8,540</b>	<b>8295</b>	<b>9125</b>	<b>10.0%</b>

## 2.6. Comments on sectoral production in the Isle of Man

Throughout delivery of this report, we found that obtaining figures on sectoral performance on the Isle of Man is very challenging because the figures are broadly not available, and therefore have to be inferred from analysis of high-level figures as well as on general feedback from the industry.

### 2.6.1. Sucker Cow Production

As already demonstrated above, suckler cow production (and hence beef production) is decreasing on the island. Feedback from farmers indicates that the Suckler herd is struggling financially for a number of reasons. The most significant challenge is the cost to keep a suckler

cow over the winter, and with rising feed prices this is becoming increasingly difficult. Secondly average herd performance is not as strong as it could be, with most suckler herds producing between 0.83 and 0.91 calves per year, meaning that the suckler breeding herd is supported by a low number of finishing animals. There are a range of breeding and management techniques which can alter this, but some (such as genetic improvement) take a long time before a significant effect is seen. The traditional nature of suckler farming also means that the uptake of advanced or novel practices is slow.

A focus on genetic improvement for improved fertility and improved feed utilisation is absolutely key, as is the implementation of soil and grassland management techniques which can increase the amount of grass produced, and its overall value to the animal, reducing dependency on bought in feed.

There is a very weak market for cull cows on the island, meaning that the majority of these animals are exported live for slaughter in abattoirs in England.

### **2.6.2. Beef stores and finished cattle**

The number of finishing heifers, bulls and steers have all decreased from the previous year, which leads to further concerns as to the sustainability of the beef industry on the island. With the fall in suckler cow numbers it is likely that this will only continue to fall into the future. There is likely to be input in this area from dairy bred animals, either from dairy-beef crosses, or dairy sired males, which is likely to increase as the number of suckler cows falls and dairy cow numbers increase.

A large proportion of finished cattle are sent as live exports to abattoirs in England. However, this is becoming increasingly unviable due to the increasing costs to overwinter and finish store cattle, as well as the high costs of exporting which further diminishes returns. There have recently been long waiting times for slaughter of cattle at the island's abattoir, forcing farmers to either continue feeding cattle for longer (raising costs and reducing profitability) or paying for haulage off island for slaughter in England.

### **2.6.3. Dairy Cow Production**

There are relatively low numbers of dairy cows on the island. However as previously indicated, numbers have increased slightly in 2022 over previous years. The number of calved dairy cows and heifers has remained relatively consistent, however the number of replacement heifers in calf, and heifers to be bulled have increased, suggesting the dairy herd will continue to expand, although this is dependent on culling rate.

The dairy sector is performing well. However it is crucial that milk prices are in line with input costs, to ensure dairy farmers can continue to produce at an economically sustainable level. This is challenging, as input costs have risen dramatically. Technical improvements are necessary. Productivity can be improved through uptake of advanced genetics and technology (e.g., robotic milking parlours), whilst reducing the environmental impacts of dairy

production. A focus on supporting advanced practice is important.

As with suckler cows, a continuing drive for genetic improvement is crucial, focusing on feed utilisation, fertility, longevity and overall resource use efficiency. However, as dairy cattle are already highly selected for productive traits, there is also a need for attention to be given to welfare related health traits such as lameness and mastitis incidence when selecting sires, to ensure high welfare standards. The use of sexed semen is important, to enable females to be bred from the highest performing dams and for beef semen to be used on other dams to maximise the output value.

#### **2.6.4. Sheep production**

It is generally agreed that the island is highly suitable for the production of lambs, and that sheep production can be delivered profitably. Approximately 33,000 lambs are slaughtered annually in Isle of Man Meats, and the rest exported to the UK for live slaughter. The live animal trade provides an alternative market for Isle of Man farmers and enables the sale of store and breeding stock as well. In addition, there are a significant number of light lambs on the island, and Isle of Man Meats does not have a market for these. Live export is therefore necessary. Two main exporters manage the export of lamb. They are able to rapidly pay farmers for stock and thus facilitate cashflow, and it is clear that they are an important part of the Isle of Man farming economy.

As with the other sectors, figures on the productivity and profitability of sheep production are difficult to obtain.

#### **2.6.5. Pig Production**

There is only one significant pig producer on the island, and one other farmer producing smaller numbers as part of a mixed enterprise. The product from these farms are slaughtered in Isle of Man Meats and are supplied to local stores as Manx pork. There is no export of pork. The small numbers of pigs on the island does present challenges to the abattoir as a whole line has to be set up, operated and washed down for approximately 50-70 pigs per week. Under normal commercial circumstances this type of operation would not be possible, but it continues because one of the functions of the abattoir is to provide a service to the local agricultural community. In reality it would be more efficient if pigs were slaughtered every two weeks in batches which were twice the size, but it is unlikely that a kill this infrequent would be able to meet the demands of retailers on the island. There is value in having pig production on the island as it allows local people to have a supply of local pork, and again contributes positively to food security on the island.

Pig production on the island is disadvantaged in comparison to production in the UK because of higher feed costs. Approximately 77% of the production cost of UK pork is attributed to feed, and on the Isle of Man this will be even higher. Figures on the profitability of pig production are not publicly available, but all pig producers in the British Isles have been experiencing significant financial challenge over the past year.

The main pig producer on the Isle of Man has a very significant point of difference in that their pigs are being produced in an antibiotic free system. This is possible because of the isolated location of the farm, meaning that transfer of disease between pig herds does not occur.

#### **2.6.6. Cereal production**

Just over 6903 acres of land were dedicated to cereal production, out of the 9125 acres of land planted with crops, an increase over previous years. Spring barley took up the largest proportion of land, followed by Oats, spring wheat and Winter Barley in area planted.

The production of cereals is very challenging due to the closure of the bakery, limiting the demand and potential markets for Manx flour products from the mill. Flour products are also not fortified, limiting their sale in off island markets where this is required.

This will have the knock-on effect of reducing arable acreage, which is challenging from a biodiversity perspective and for the supply of straw. As the majority of farms on island where animals are housed using deep bedding with straw, it is crucial for other livestock enterprises that cereal production continues sustainably on the island, as the costs of importing straw will be prohibitive.

Several of those we engaged with suggested that increased cereals on the island would be beneficial, enabling a rise in home grown feed for cattle and sheep, and an increase in available food for granivorous wild birds.

There is the potential to financially encourage farmers to engage in the production of protein crops to replace the wheat which was being produced for the bakery. This is already possible under the AES scheme, but additional promotion may be necessary, as may market development linking producers to users. There are technical challenges around protein production on the island and it may not be feasible, but the availability of an on-island protein source for animal feed would be beneficial.



### 3. Feedback from Farmer survey

In order to discover farmer opinion on the Isle of Man's approach to agriculture, a short survey was distributed in consultation with the Manx Farmers Union, the Manx Farmers Alliance, the Agricultural Marketing Society and other stakeholder groups. We received 84 responses to this survey, and given that 343 farms were present in the 2022 census, this may indicate that just under a quarter of farms are represented. Below is a breakdown of their responses.

#### 3.1. Breakdown

##### 3.1.1. What farming enterprise(s) do you operate?

Of the 84 responses to our farmers survey, the majority of respondents indicated that they operated a Sheep enterprise (71.43%), with the next largest enterprise being beef (70.24%). Just under one third of farmers operated arable enterprises, with dairy enterprises made up just under 16% of responses. This indicates that the majority of Manx farms are mixed enterprises. It is therefore important that appropriate supports are in place to meet the needs of different combinations of enterprises.

##### 3.1.2. Approximately what size is your farm?

Just under 75% of responding farmers indicated that their farms were more than 100 acres in size. The majority of farms (36.14%) indicated their farms were greater than 300 acres, whilst only 12.05% indicated their farms were under 50 acres in size.

Answer Choices	Responses	
0-50 acres	12.05%	10
50-100 acres	13.25%	11
100-200 acres	18.07%	15
200-300 acres	20.48%	17
More than 300 acres	36.14%	30
<b>Answered</b>		<b>83</b>

##### 3.1.3. What is the land type on your farm?

When asked the land type of their farms, majority of farmers (68.29%) indicated that their farms were made up of predominantly lowland, with just under 26% indicating their farms were made up of mixed upland and lowlands. Only a minority (6.10%) of responses farmed predominantly in the uplands. Whilst lowlands were the dominant land type, mixed or predominantly upland farms comprised around one third of farms. This highlights the importance of support for upland farming.

Answer Choices	Responses	
Predominantly lowland	68.67%	57
Mixed lowland and upland	25.30%	21
Predominantly upland	6.02%	5
<b>Answered</b>		<b>83</b>

### 3.1.4. Where do you sell your products?

When asked where they sell their products, just over 75% indicated that they sold to Isle of Man meats. Just over 50% of farmers also indicated that they exported product off island. Off-island trade is important to farmers, and this means that the shipping routes that facilitate exports are also important. Approximately 4500 cattle are exported, mainly as store cattle or as cows for slaughter, and about 20,000 sheep to a range of markets.

This may also suggest that Manx farmers have either lost trust in the abattoir to take stock on a timely basis, or that the abattoir is simply unable to process all the stock. Store stock also leaves the island because it can be expensive to finish stock on the Isle of Man, and producers in England or Wales have the ability to finish stock more cheaply. The "Other" section in this table is mainly made up of breeding sheep and smaller suckler producers who sell their cattle for on island finishing.

Answer Choices	Responses	
Isle of Man Meats	75.90%	63
Isle of Man Creamery	14.46%	12
Laxey Glen Mills	2.41%	2
Export off Island	50.60%	42
Other	42.17%	35
	<b>Answered</b>	<b>83</b>

### 3.1.5. Do you currently conduct soil sampling on your land?

Encouragingly, the majority (69.14%) of responding Manx farmers conduct soil sampling on their farms. The rate of soil sampling appears to vary between respondents, but the majority indicated that they test at least every 5 years.

Answer Choices	Responses	
Yes	69.14%	56
No	30.86%	25
	<b>Answered</b>	<b>81</b>

### 3.1.6. Have you applied for any grants from DEFA, was your grant application successful and how did you find the grant process?

When asked if they applied for any DEFA grants, 77.11% of responding farmers indicated that they had applied. Encouragingly, the majority (73.49%) of those who did apply indicated that their applications were successful, 1.20% were not successful and 25.30% indicated that it was not applicable. Whilst 22% indicated they did not apply, and while it is possible they did not need to draw down grant support for specific actions, it may also be true that farmers were not aware of the grants that were available, or that the application process is overly complex and off-putting. This final factor was reflected in the following question where 20.99% found the grants process to be difficult, while 23.46% found the process to be easy. The majority

(55.56%) indicated that they found it neither easy nor difficult. Ideally the grant application process should be simplified (while remaining robust), and greater support during the application process could be provided to increase uptake. It is important to note however, that since 2017, a relatively small number (around 15%) of grant applications have been rejected, suggesting that the majority of applicants are able to manage the process.

### **3.1.7. How do you view the importance of preserving the Environment?**

Whilst it is very encouraging to find that just over 95% of responding farmers indicated that they viewed preserving the environment to be important or very important, and just over 80% indicated they thought agriculture plays an important role in reducing climate change. Some farmers raised concerns about how the environmental policies are being implemented.

### **3.1.8. What are your views on current DEFA Policy on production and the environment?**

When provided an open-ended question on their thoughts on current DEFA policies on the environment and production, a large number of answers indicated that current schemes are not focussed on rewarding farmers for production and are too focussed on the environment. Whilst there may need to be greater communication with farmers as to the importance of environmental schemes, it appears that work is needed to better promote farm productivity in tandem with the delivery of environmental benefits. This may include greater focus on, and promotion of, the AES supports to incentivise non-productive investments, or the introduction of policies to help improve productivity whilst also improving the environment (e.g., introduction of multi-species swards).

There was a general consensus in the feedback that the current schemes do not suit all farm types, with it being much easier for larger farms to access grants than for smaller farms, and that many schemes suit arable farms rather than livestock or upland farms. However, research into the various schemes, especially the Agri-Environment scheme, show that this is not necessarily correct, with figures for 2022 showing an even spend between enterprise types. Uplands also benefit separately from the upland stewardship scheme.

It is therefore important that steps are taken to raise awareness of the available flexibility to encourage a greater number of enterprise types and farm sizes to avail of grants. It is also important to ensure that the application process is as simple as possible to encourage maximum uptake. A regularly repeated opinion was that there may be potential personal biases within DEFA itself, preventing individual farmers from accessing grants, which is especially a problem due to the small size of the island. It is important then that the grants process is impartial, and that applications should be anonymized in some way to remove potential personal biases towards individual farmers.

### **3.1.9. What changes would you make to current DEFA policy?**

When asked what changes farmers would make to current DEFA policy, a wide range of suggestions were given. Just over a quarter of farmers indicated that DEFA policy should

support and encourage active farmers and that payments should be related to production. Another theme arising from the answers was that the Agri-Environment scheme should pay in excess of 100% of the costs to implement environmental improvements. This would provide a better incentive to apply, rather than the farmers themselves paying for and maintaining non-productive elements within the farm. Again, a number of farmers also indicated that the application process needed to be simplified. It was also emphasised that there needs to be increased focus on supporting the entry of young farmers into the industry, over and above the existing support.

**3.1.10. Are you optimistic about the future for your farm?**

Just under 30% of farmers indicated that they were optimistic about the future for their farm. Nearly 40% of farmers said they were not optimistic, with the remainder indicating they weren't sure. A major factor appears to be the increasing costs relative to income, making it increasingly difficult for farms, especially small farms, to remain viable.

Answer Choices	Responses	
Yes	28.92%	24
No	37.35%	31
Not sure	33.73%	28
	<b>Answered</b>	<b>83</b>

**3.1.11. What do you think are the most important components of your food to the consumers who buy your product?**

When asked what they thought was most important about their food that influences consumers to buy their product, almost half of respondents indicated that in the current climate, price was most important. In this regard it is important that any policy going forward should enable Manx produce to be both available and affordable to the consumer, whilst ensuring that farmers are paid properly for their produce. In addition to price, farmers indicated they thought quality, being locally produced and how environmentally friendly their products are influenced consumers.

**3.1.12. In your opinion, what could be implemented to make farming more sustainable on the Island?**

Several key suggestions were made when asked what could be implemented to make Manx farming more sustainable. Shipping and transport costs to and from the island were highlighted as crucial for sustainability. Subsidised or reduced costs to transport/ship inputs (e.g., animal feeds, fertilizer) and reduced costs for exports are needed for farming to remain viable. This would also enable greater food security, allowing greater movement of food on and off the island. Policies to promote green energy and renewables were also suggested, both to reduce costs, and if possible, add additional revenue streams for farms. This may be using on farm anaerobic digestors, solar panels or wind turbines. This would also have the benefit of

securing greater energy security in the island.

Greater access to the Isle of Man's internal markets is also important to farmers. Not only greater promotion of Manx Produce within retail was suggested, but also that all government operated facilities (e.g., Hospital, Schools, prisons), should use Manx sourced meat, dairy and vegetables where possible, with the added benefit of lowered food miles, improved environmental performance. Additionally, for farming to be sustainable farmers felt that greater education and access support for new farmers is important. Access to land appears to be one of the largest blockers for new farmers, and there are steps which could be taken to encourage the handover of land (such as ceasing support payments at retirement age), but these are politically unpopular and viewed as unfair by many.

### **3.1.13. What steps do you believe you could take on your farm to improve its environmental performance?**

Many of the farmers felt that they were already doing well in terms of environmental performance. However there were suggestions about actions which could be implemented in addition to the green energy covered in previous answers. Reduction of fertiliser use was frequently mentioned, which could be implemented through increasing the use of soil sampling to determine soil nutrient requirements, and implementing precision input of fertiliser and slurry/manure. In addition, the use of multi-species swards could be implemented to reduce Nitrogen requirements.

Greater profitability within farming is fundamental. If farmers are unable to make a sustainable living, they will have to prioritise business output over environmental performance. If making a sustainable profit, farmers will be more likely to invest in actions which improve environmental performance. From answers to previous questions, it was also seen as important that environmental interventions that do not enhance productivity are properly compensated as farmers should not be expected to invest in actions which do not provide an income.

### **3.1.14. Do you feel that you know enough about best practice on maximising economic and environmental practice to make positive changes on farm? What would help?**

Farmers were split in their opinion on whether they knew enough about best economic and environmental practice to implement positive changes on farm. Some respondents made suggestions around what might help this. Training in all areas of farming, from animal health to spraying and soil sampling are in demand, with advice on market access financial planning also desired. Many recipients stated that ideally, more face to face meetings with advisors to plan actions at the individual farm level would be helpful, as all farms are different, and a one size fits all policy will not work for everyone.

There is currently low uptake of advisory and benchmarking grants, which suggests that farmers do not realise the potential economic impact of these actions. Additional promotion and highlighting of this potential is therefore important.

### **3.1.15. What do you think are the most important challenges facing your farm over the next 10 years?**

Profitability appears to be the main challenge for farmers responding to the survey. This is linked to the increasing costs of feed, fertiliser and diesel, maintaining existing farm machinery and sheds, and the costs to invest in new machinery, technologies and facilities. Consistent with the trend discussed shown in the agricultural data surveys, farmers highlighted the lack of suckler cows and the resultant lack of suckler calves for finishing, indicating that support may be needed in this sector. Age was also a challenge, with some farmers stating that they do not feel they can afford to retire, and that succession will be difficult as they do not want to tie their children down to an increasingly unviable business. This may also be linked to the view that the small family farms are being rendered unviable and will be swallowed up by larger enterprises in the future.

### **3.1.16. If you were completely free to do so, what changes/developments would you want to make on your farm?**

Investment in farm infrastructure and facilities was the predominant response to this question. Ongoing repairs and maintenance are expensive, making it difficult to deliver improvements over a longer period of time. This issue was highlighted in previous responses, where farmers were rejected from grants as they were making gradual improvements rather than delivering a singular large project. It is important that farmers can maintain and keep their facilities up to date, to improve efficiency, safety, productivity, and animal welfare, whilst reducing labour. There is therefore a need for a range of schemes that suit those doing large or smaller scale more gradual improvements as each farmer will have their own needs and budgetary limitations. As previously discussed, many farmers would like to invest in green energy, including solar panels, anaerobic digesters and wind turbines, to reduce their own costs, and potentially introduce additional revenue streams through payments for energy. There is, however, a challenge around the infrastructure to enable this, and government should consider development in this area.

### **3.1.17. Do you believe that you have all the necessary skills to successfully develop your farm over the next 20 years? If not, what training would you find helpful?**

The majority of responding farmers indicated that they did not have the necessary skills to develop their farms over the next 20 years. Many indicated that the farming industry is rapidly evolving and therefore assistance is needed at all levels, both new to the industry or highly experienced in farming. The training that farmers requested was varied but is nonetheless necessary. Training in soil management, environmental training, animal genetics, animal husbandry (artificial insemination and hoot trimming training, medicine use), how to use the machinery, paperwork and book-keeping, and fencing were all highlighted.



**3.1.18. How easy do you believe it is for new entrants to the industry to get the support they need?**

The vast majority (65%) of farmers indicated that it is difficult for new farmers to get the support they need, with only 10% indicating that it is easy. Consistent with our in-person interviews with farmers groups, getting access to land is very difficult, which in turn can make it difficult to access grants. To this end new entrants will find it difficult to find sufficient capital to invest in purchasing or renting land.

## 4. Agri-Food Production and Promotion on the Isle of Man

The Agri-Food Sector on the Isle of Man is supported by the production sector on the Island, and in our opinion support for both are critical.

### 4.1. The importance of Agri-Food Processors

It is our observation across multiple agricultural and agri-food producing jurisdictions that agri-food processors are of fundamental importance for a number of reasons.

1. They provide a market for agricultural products, and create economic return, often in rural areas. This is important for the isle of man, and the Creamery, the Flour Mill and the Abattoir all offer markets for Isle of Man products which would not otherwise be available. Without processing facilities on the island, farmers would be subject to purchasing of product by UK processors, and it seems likely that the price paid would come under pressure. The presence of processing businesses on the island means that there is price competition which ensures that off-island purchasers need to be competitive.
2. Agri-Food businesses are very strong at distributing wealth to rural areas. Most large businesses are based in urban areas and this is not the case with agri-food businesses. Many of them are based in rural areas and offer employment to local people.
3. Agri-Food businesses are the link between the farmer and the customer and are in a position to provide guidance to farmers about the key attributes required from their products. This doesn't always occur.
4. Agri-Food businesses are key to the delivery of action on climate change. Their own operations have some impact, and their own actions are important. However, much more importantly, they have a very large influence on the activity within the agricultural supply chain and can be crucial actors in the chain to deliver environmental improvement.

### 4.2. The need for structured engagement

Structured engagement between Agri-Food businesses and the Isle of Man Government is important at both a one to one level and on a whole industry basis.

Agri-food businesses on the island all have similar challenges including (but not limited to) staffing, training, efficiency development, product development, access to UK retailers on-island (due to their ranging decisions which are made centrally), marketing and off-island transportation, which suggests that a joined up industry and government approach could pay dividends through:

- Attracting people into the industry and equipping them to effectively deliver their jobs
- Enabling businesses to work together to jointly sell to specific and high value markets
- Enabling businesses to share transport to reduce export costs
- To understand business challenges and provide specific support for activity which will deliver return on investment
- To build the attributes which would eventually underpin an Isle of Man brand

In addition to the resolution of business challenges, a government: business forum would also focus on delivery against societal targets, with a particular focus on delivery against environmental and biodiversity targets, food security, and practices which raise productivity. The interaction of the agri-food processors with the farming industry would be critical to the development of methods of rewarding behaviour which increases the long-term sustainability of the whole industry and the Isle of Man landscape.

### **4.3. The importance and type of support for the industry**

We have concluded that support is essential for the agri-food sector, but that support must be targeted, appropriate, and focused on the needs of the island. The overarching island themes already provide good guidance around key targets, leading us to conclude that that support should be provided for;

1. Raising the efficiency of resource use
2. Increasing labour efficiency
3. Upskilling of job roles
4. Enabling focussed sales and marketing
5. Market development
6. New product development, including quality improvement of existing products
7. New process development
8. Implementation of environmentally appropriate practice on production facilities
9. Engagement with on-island supply base to develop and implement nature friendly practices
10. Development of on-island sales of food produced on the island
11. Support for freighting of products off and on the island

#### **4.3.1. Food Business Development Grants**

The aim of the Food Business Development Grants is to provide assistance for primary food

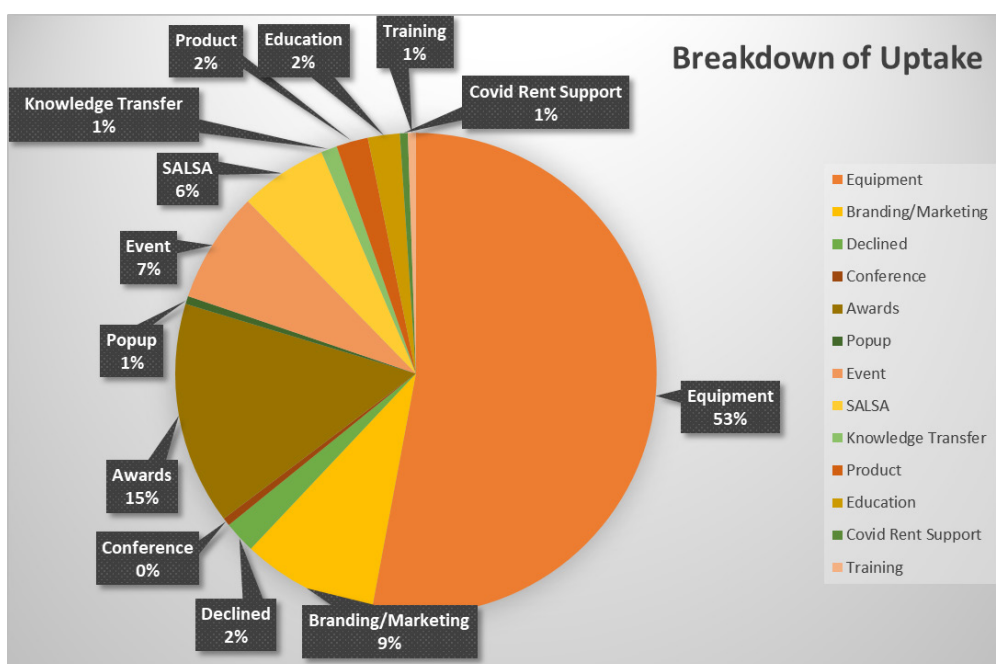
producers, local food manufacturers who predominately use Manx produce or contribute to import substitution, and the hospitality sector where they predominately use Manx produce and have been accredited by the Harvest Award scheme. The assistance available covers marketing support including Point of Sale, brand re-design and advertising of the business.

On island tourism events which predominately showcase local food; trade visits both to and off island where local produce is promoted for export, supply chain costs for both exporting of food products as well as the importation of packaging for on island food manufacturers who predominantly use Manx produce or contribute to import substitution.

Manufacturing and food processing equipment, packaging grants where the departments approved logo is used, as well as plant or equipment designed and intended to develop new food products are also within scope. Primary agriculture and fishery producers are able to receive assistance for plant or equipment intended to help diversification in the retail market and this can include fixtures, refrigeration and EPOS solutions. Farm to school education programmes are also eligible for assistance and members of the Farmers Market association will be eligible for specific assistance including brand design, refrigeration and display equipment.

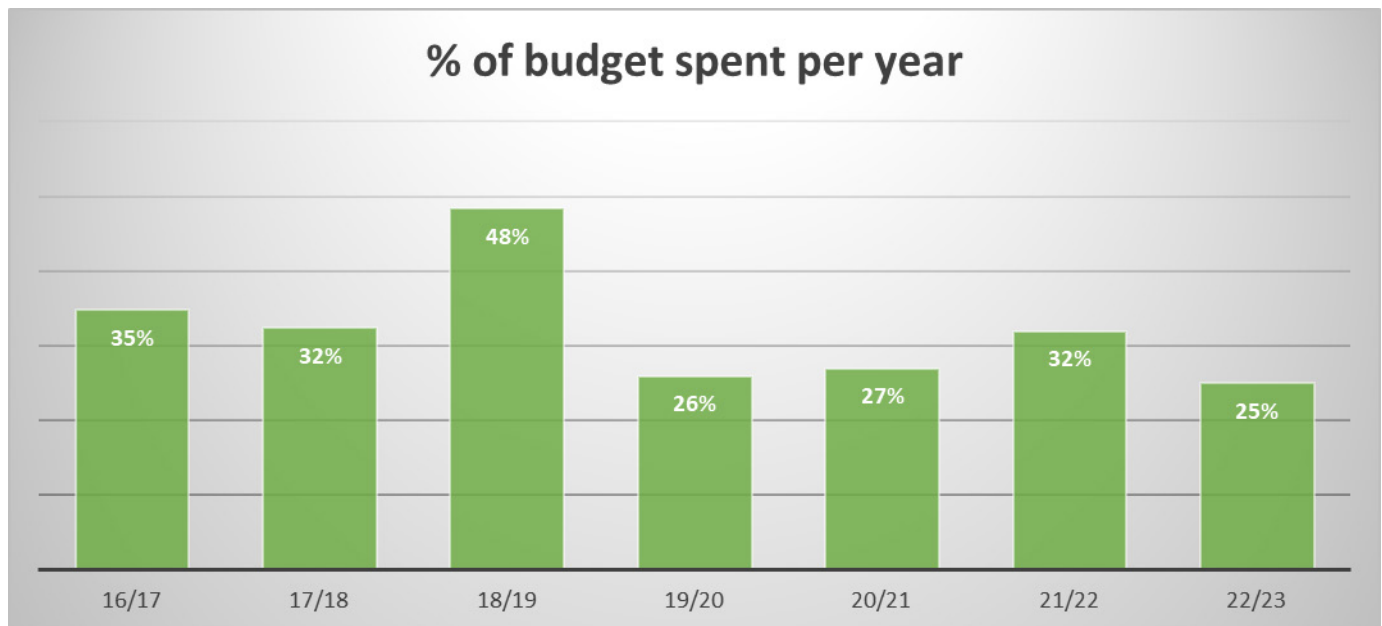
### Marketing Grants

It is the Department's policy to support new marketing activity that will generate new revenues and economic benefits. Activity that is simply intended to protect existing customers and sales will not attract support. The Department wishes local business to enter new markets and thus expand their customer bases and geographical spread. This is on the grounds that it reduces risk by preventing reliance on one key customer, market or geographical location. Regular marketing and promotion efforts to maintain customer relations, sales and awareness is viewed by the Department as an ongoing business cost and so such activities would not typically attract support.



As can be seen from the pie chart above, the majority of payments for the Business Development Grants have been on equipment which will help a business to develop and grow.

15% have been spent on applications for awards which, although they may help promote the business, depending on the product may not help promote Manx produce as a whole. It's important to note that in this section it appears to be the same businesses applying for the same awards year-on-year, which is generally true for events (7% of total grants).



The Food Business Development Grant has an annual budget of £300,000 and averages 30 applications per year. However, the scheme has not exceeded even half its budget in the time it has been running. This may indicate either a problem with businesses being aware of the available grants, difficulties in the application process or the need to review what's on offer.

#### 4.4. Encouraging the start-up and growth of food businesses

Food start-ups are relatively common in the Isle of Man, but rarely grow beyond a certain size. To some extent this is a result of businesses not wanting to breach the VAT threshold, where accounting and charging for product becomes much more complex, but it can also be a result of a lack of knowledge about how to expand, or a lack of vision of what is possible for the business or product. Some reasons for low business growth after start-up are highlighted below:

##### 4.4.1. Small or Unsuitable Premises

Our engagement with smaller agri-food businesses on and off the island show that they share a common set of challenges. Many food businesses start in someone's kitchen. This is primarily (but not always) a result of a hobby which turns into a job. Home kitchens are restricted in size and do not lend themselves to the production of high volumes of product, but often larger premises are unavailable, or when they are, the cost of the premises is viewed as too high.

**It is our view that consideration should be given to providing an incubation centre on the island with shared kitchen facilities and some individual units which can be leased to new business start-ups, or used by kitchen table businesses who wish to expand. It would make sense for this facility to be in the middle of the island where it is accessible to all. Some additional engagement and study will be required on the island to enable a decision to be made, but we believe that an incubation centre could provide significant benefit.**

#### **4.4.2. Lack of Skills and Knowledge**

Because most small businesses start with only one person, this can severely restrict growth. A wide range of skills are required to facilitate business growth and very few individuals have all of these. Key skills include:

1. A knowledge of all documentation and policies which are required to enable effective and legal operation of a food business
2. Product development skills
3. Staff management and HR skills
4. The ability to manage the production process, and in particular the scale-up of a production process to commercial speeds
5. An understanding of the food safety requirements and processes which need to be implemented to allow larger production volumes
6. An understanding of the labelling requirements which will enable business growth
7. The ability to collect data, interpret it and use the resulting information to manage the business
8. The ability to market and sell product in larger volumes, including the ability to negotiate price and supply agreements with larger sales outlets
9. The ability to tell the story of the business
10. The ability to use social media to promote the business
11. The ability to effectively manage business costs, inputs, outputs, invoicing etc.

**Addressing these challenges on a business per business basis would unlock further business growth**

#### **4.4.3. Unwillingness or inability to certify**

Once a food business becomes large enough to provide a regular supply into a UK retailer, certification generally becomes necessary. This will usually take the form of SALSA or BRC approval.

BRC is generally required for larger processors and can take several days. A range of grades are possible, but often key retailers will only source from facilities which have one of the top two ratings. SALSA is generally used for smaller producers, and feedback suggests that some producers are intimidated or nervous about attempting certification. In reality, it is sensible that all food businesses are certified, so a programme which assists businesses to become SALSA approved is important. We acknowledge that this is something which has been supported in the past, with relatively low take-up (due to UK retailer ranging decisions), but this does not diminish its importance.

It is crucial to understand why small agri-food businesses choose not to become certified and to address these causes. We believe that the following are all reasons given for not certifying:

- 1. Unsuitable premises.** This is unquestionably a challenge, as many home production facilities are simply not good enough to meet commercial standards. This recognition will prevent many businesses from attempting certification
- 2. Unsure of the procedures and policies which are required.** Operation of a growing food business requires that policies and procedures are in place to manage food safety, operator safety and environmental protection (in some cases). The list can be daunting and a small, one or two person business may simply decide that they do not have the knowledge or time required to deliver against the procedural requirements.
- 3. Lack of time or ability to manage the required record keeping to ensure compliance.**
- 4. Unwillingness to financially invest in improvements which may be required to pass audit.**

Unwillingness to certify is a widespread challenge across multiple jurisdictions and is not limited to the Isle of Man.

#### **4.4.4. Lack of vision**

Sometimes business owners with a good product do not see the potential for their product and cannot visualise what their business could potentially achieve. **Provision of advice or guidance on this could encourage further development.**

#### **4.4.5. VAT restrictions**

Businesses in the Isle of Man currently have to comply with UK VAT laws. This means that once turnover increases above a threshold figure (£85,000), business have to register and charge VAT on specific activities. Whilst this is not necessarily a large challenge for food (as food is exempt), many products used in the production of food do attract VAT and this can significantly complicate the management of the business. As a result, many owners do not want to expand above the VAT threshold.

If a method of simplifying VAT reporting for businesses just over the threshold could be found, it may encourage businesses to continue to expand. Essentially, creeping over the VAT



threshold creates cost for a business which is not recouped until a critical mass of additional business is obtained. **The provision of assistance from when a business crosses the VAT threshold until it is generating enough revenue to justify additional assistance (either external to the business or through part-time staff) could potentially encourage business owners to keep growing.**

#### **4.4.6. The willingness or ability to export**

Exporting of goods off the island brings a range of significant additional challenges which can act as a disincentive to business expansion beyond the island itself. Export in any volume requires that a business is audited and approved (probably by Salsa), that all appropriate procedures and documentation are in place, that specific customers are identified, that account management takes place, that transport to the customer is arranged and that invoicing is effectively delivered.

**Specific assistance around dedicated preparation and delivery of export for small businesses could potentially encourage some to expand.**

### **4.5. Promotion of IOM Food on and off the Island**

Production volumes of food on the island are relatively low in global terms and, as a result, it does not make sense for the island to consider promotion at large international trade fairs.

However, the Island does produce a range of high-quality food which can be targeted at very specific high end markets, and with the right developments, Isle of Man producers can utilise these quality attributes and the provenance of the island to leverage higher prices which more than offset the higher production costs on this island.

This can only really happen through a coordinated, targeted approach which identifies specific premium markets and builds long term supply relationships.

**We believe that there is a need to carry out a marketing and sales study into areas of the UK and Europe which could potentially offer the highest returns for Isle of Man Food products, and to enable producers to specifically target these high value areas.**

**Further to this, consideration could be given to support on island agri-food producers to jointly develop a marketing and sales plan to succeed in these specific markets.**

## 5. Aims, Policies, Strategies for IOM

### 5.1. Aims and Strategies

Analysis of the strategies and policies in IOM, as well as interviews with a range of stakeholders revealed the following aims for the whole island.

1. A fully sustainable economy
2. An environmentally sustainable, carbon neutral island, with growing biodiversity
3. A place which offers a high standard of living for its residents

A strong economy underpins the welfare of society as a whole. The Isle of Man economy is built on the provision of a range of services and goods, and food production is important within this. The labour force within the Isle of Man is divided as follows:

Sector	Percentage
Agriculture, forestry and fishing	3%
Manufacturing	11%
Construction	10%
Transport and communication	8%
Wholesale and retail distribution	11%
Public Administration	6%
Banking and finance	18%
Tourism	2%
Entertainment and catering	3%
Miscellaneous services	10%

Whilst agriculture, forestry and fishing look relatively small within this, it is important to note that agriculture also enables further economic benefits, influencing manufacturing, transport, entertainment and catering, and tourism.

The Island's Economic strategy: 'Our Island, Our Future: Isle of Man Economic Strategy' identifies four main targets. All of these are, in some way, relevant to agriculture.

1. **Shape of the economy:** Create and fill 5,000 new jobs across new, enabling, and existing key sectors by 2032, reaching an overall GDP of £10bn.
2. **Infrastructure & Services:** Further develop the infrastructure and services of our community to plan for an estimated population of 100,000 by 2037.
3. **Public finances:** To generate over £200m of additional annual income to reinvest in services and quality of life by 2032.
4. **Sustainability:** Substantially decarbonise the services parts of the Island's economy by 2030, supporting an overall reduction of 35% in the Island's greenhouse gas emissions.

**Target 1 can be impacted by agriculture and the agri-food sector.** Specialist commentators all agree that global demand for food production will rise over the next few decades, driven by a combination of population and economic growth. This means that there is the opportunity to target increased food production as an economic policy on the island, provided that this can be achieved sustainably in line with sustainability targets.

**Target 2 is relevant to agriculture and agri-food.** Agriculture will become increasingly automated and digitised over the next 10–20 years and is also likely to increase its focus on energy production as well as food. This means that it is essential that the island has high-speed broadband which is accessible to all businesses and homes on the island, and that the electricity network on the island is able to both deliver and collect high volumes of electricity. It is also possible that an increasing proportion of farm machinery will be powered by electric, and this would require an electricity network which is able to meet the demands of charging heavy machinery during peak harvest times. This may require investment in energy storage facilities as well as transmission infrastructure.

**Target 3 is also relevant to agriculture and agri-food,** as if food production can be sustainably grown, there will be a significant contribution to government tax returns.

**Target 4 is highly relevant to agriculture,** as farmers control three quarters of the land on the island. Correct soil, crop and animal management can create significant benefits for the environment, and much of this can be driven by appropriate policy.

DEFA states that the Food Matters Strategy has been established *“to grow the Island’s food industry by £50m over 10 years in a sustainable, profitable and increasingly collaborative way, so the food supply chain meets the needs of customers who are increasingly conscious of provenance and traceability”*.

Customer focus is critically important, because the necessary additional returns for the island can only be driven if the food which is being offered fully meets (or exceeds) customer expectations.

**Aim: An environmentally sustainable, Carbon neutral island, with growing biodiversity**

The need to be environmentally sustainable is now widely accepted amongst most of the business community. In our conversations with farmers we found that the majority see the need to reduce the environmental impact of food production and are willing to do so. What is less clear to them are the exact practices which can deliver against this requirement.

Agri-food businesses also have a part to play in reducing environmental impact, partially through the implementation of energy efficient practices and appropriate infrastructure, but more importantly, through influencing farmer suppliers towards environmentally beneficial practice, and the effective marketing of this to consumers. We recognise that some businesses on the island have already started to do this.

Farms have a major part to play in driving the achievement of carbon neutrality, the

improvement of biodiversity and in contributing to the mitigation of climate change. Appropriate policy has the potential to drive better environmental performance which also, in many cases can also benefit economic performance.

Consequently, agricultural and agri-food policy is critically important to the delivery of environmental sustainability and Carbon neutrality on the island.

**Aim: A place which offers a high standard of living for its residents**

The island sets out to be a great place to live, and a wide range of factors influence the standard of living for the residents of the Isle of Man. These factors include:

1. The economic performance of the island
  - a. Availability of jobs
  - b. Taxation levels
2. The services provided to the residents on the island
  - a. Roads
  - b. Power
  - c. Water
  - d. Cleaning
  - e. Local facilities
  - f. Attractions and facilities
3. The environment in which the residents live
  - a. The landscape and scenery
  - b. Air quality
  - c. Water quality
  - d. Accessibility to the countryside

Agriculture impacts the environment in which the residents live, through influence over water and air quality, the preservation and enhancement of the landscape, the enhancement of biodiversity and, more controversially, through the provision of access to land.

## 5.2. Strategies

The Island has designed a number of strategies to guide activity on the island. Many of these have an effect on agriculture and agri-food. These strategies cover a range of topics, and many are not always under the influence of DEFA, meaning that cross-departmental interaction is necessary to ensure effective delivery. The main strategies and policies are outlined below.

### 5.2.1. Strategy: Agricultural Strategy 2019–29

The current agricultural strategy was written with a vision of *'Sustaining a vibrant Agriculture sector, enabled to deliver a reliable and profitable food chain, while maintaining and enhancing the Island's natural environment and capital'*. The strategy identified four main objectives:

- **The Environment:** Providing support for targeted initiatives which conserve the landscape while being environmentally friendly as part of the climate change agenda
- **Supporting Active Farmers:** Ensuring financial support is targeted at farm businesses producing food while protecting the environment and landscape
- **Productivity:** Creating an environment where sustainable, productive agriculture can flourish through knowledge exchange, benchmarking, efficiency and marketing
- **Investment:** Providing support through capital grants, business confidence and profitability

The overall aims of this strategy are all relevant and appropriate for the future and do not need to be changed. However, further development of implementation strategies is necessary in some areas, and will continue to be necessary as science advances and new findings emerge, or as commercial conditions change.

### 5.2.2. Biodiversity Strategy 2015

The Biodiversity strategy was written with the aim of managing biodiversity change to minimise loss, to maintain, and, where necessary, to restore or enhance native biodiversity. The strategy also actively seeks to involve society in understanding, appreciating and safeguarding biodiversity.

The strategy highlights how unsustainably farmed soils typically show a decline in organic matter, soil depth and micro-organisms, indicators which are not currently monitored on the Island. It also highlights how ploughing peatlands can lead to increased carbon dioxide emissions from captured carbon which contributes to global warming.

In order to meet the objectives of the strategy, Knowledge Exchange is critically important to encourage the uptake of best practice and technology which will deliver the output of the strategy. Our observation is that there is a great deal of uncertainty about what constitutes best practice, and what the impact of that practice will be. There is almost universal agreement that blanket systems do not suit all farms, and that the impact of different practices will be different on different farms. The prevailing opinion is that the schemes should be outcome rather than input based.

The strategy includes the following relevant components:

- Objective 4: Community engagement and understanding

- Objective 6: Environment risks
  - » Farmland run-off: Including silt, slurry, silage effluent, oils and pesticides

There are several mitigation measures which could be investigated and added to the current agri-environment scheme to help with this objective such as:

- ♦ **Silt traps** – an area, like a shallow trench, where run-off from fields or tracks is detained. When field run-off reaches the silt trap, it is slowed down which enables:
  - » Settlement of sediment (silt) so it is not lost to culverts, watercourses or highways
  - » Nutrients attached to the sediment are trapped, which could otherwise cause ecological problems in receiving water courses
  - » Infiltration of water into the soil
  - » Sediment that accumulates in the silt trap should be dug out and spread back onto nearby fields. The silt is likely to be high in nutrients and therefore of value to the farmer
- ♦ **Riparian (buffer) strips** – These strips have the potential to conserve, enhance and protect the water environment. The use of natural buffer strips to protect freshwater from diffuse agricultural pollution has been carried out in Europe for a number of years. Buffer strips can also slow down flood flows as well as providing bank stabilisation and habitat. A buffer strip can consist of grassland, wetland, scrub or trees
- ♦ **LiDAR runoff Risk Maps** – These maps identify field areas at highest risk of overland flow (runoff) to watercourses during heavy rainfall. This can be the primary route for losses of nutrients, particularly phosphorus (P), herbicides/pesticides and sediments to our surface waters. Each map is generated by first using the surface elevation/heights (obtained from the LIDAR scan) to model the hydrological connectivity of every point on the land surface to receiving watercourses. This is then weighted by factors relating to soil drainage and depth to reduce runoff potential in areas with well drained soils and raise it in areas of heavy soils. The information can be used to identify small areas within fields where application of nutrients should be limited or stopped

### 5.2.3. UNESCO Biosphere Isle of Man Vision and Strategy 2021

As stated earlier in the report, the Island's biosphere status is important and places delivery requirements on the Island. The Biosphere sets out five pillars as a basis for delivery of the aim of 'working together for a sustainable future'. The five pillars include Education, Enjoyment,

Engagement, Economy and Environment.

This includes UNESCO Biosphere Isle of Man complementing and assisting in delivering the *“Productive Farming and the Environment: agricultural strategy 2019/20–2029/30.”* The Isle of Man Farming and Wildlife Advisory Group (FWAG) are part of the stakeholder partnership group on the alongside representatives from DEFA.

#### 5.2.4. ‘Food Matters’ Food business development strategy 2015–25

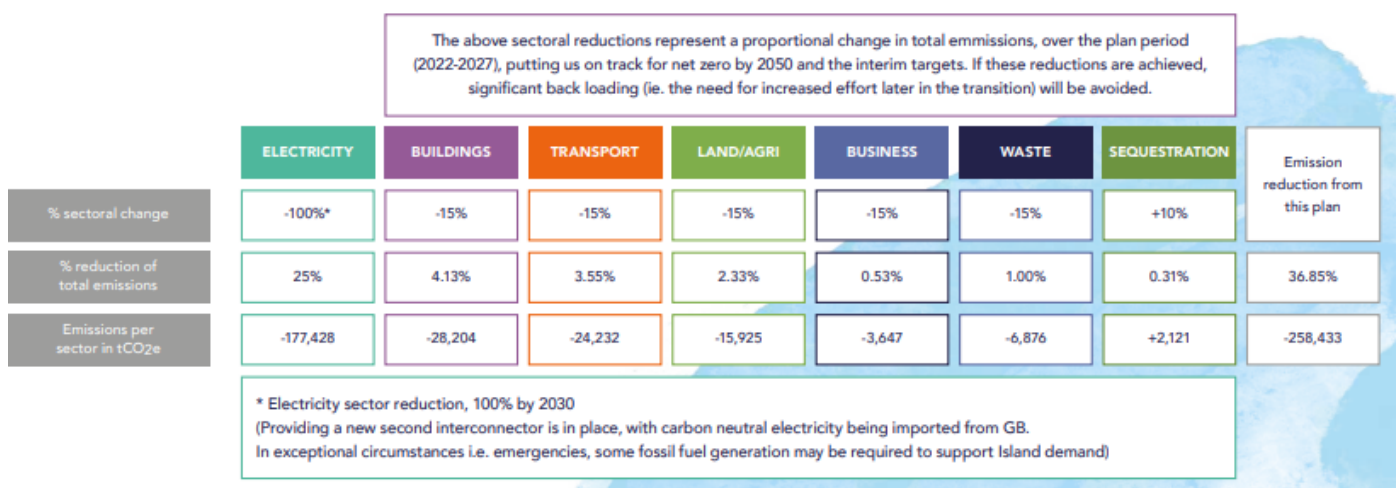
This strategy aims to grow the food and drink industry on the Isle of Man, resulting in a positive effect on the local economy. According to the report, every £1 spent with a local business is worth £1.83 to the local economy<sup>5</sup>. It outlines the importance of the local agriculture industry to the sector as well as detailing the need to *‘Support growers, farmers, fishermen, manufacturers, retailers and the hospitality trade in the profitable development and expansion of the industry.’*

#### 5.2.5. Climate Change Plan 2022–2027

The Climate Change Plan is focussed on delivering positive action across all sectors on the island, not just agriculture and agri-food. The strategies, policies and proposals contained within this Plan are aimed at delivering against the following targets:

- 35% reduction in net emissions by 2030
- 45% reduction in net emissions by 2035
- Net zero greenhouse gas emissions by 2050

To achieve these targets, a range of sectors are required to contribute, and these are laid out in the diagram below. Agriculture is being required to reduce its overall emissions by 15% by 2027, representing almost 16,000 tonnes of Carbon Dioxide equivalent.



A range of other commitments have been given for the island as a whole.



- The provision of carbon neutral electricity supply by 2030
- Bringing forward building regulations to ensure 97% energy efficiency in new buildings
- Seeking to bring forward a ban on fossil fuel heating systems in new builds to 2024
- The installation of 20MW of local renewables by 2026
- Future introduction of further support for homeowners and tenants to aid the transition

For agriculture, a detailed set of actions were agreed:

- To commission and implement a Land Management Plan and Strategy, to increase carbon sequestration by 10% by 2027, linking in with the Agricultural Strategy.
- To undertake and facilitate tree planting, peatland restoration and other nature-based solutions, where possible leveraging private sector investment.
- To complete Phases 1a and 1b of the Blue Carbon Project and develop a Blue Carbon Strategy based on the results.
- To establish improved baseline agricultural emissions to ensure that the impacts of strategies, actions and policies can be accurately monitored.

Funding is available to assist the agricultural industry to deliver against the requirements of the Climate Change plan, and it is important for the industry to take advantage of this.

#### **5.2.6. Biodiversity Action Plan**

“Biodiversity plays an important role in reducing atmospheric carbon dioxide. Habitats such as peatlands, forests, seagrass beds and kelp forests store significant amounts of organic carbon. If these carbon reservoirs are mismanaged, carbon can be released into the atmosphere increasing atmospheric carbon dioxide levels. Research shows that carbon locked up in marine habitats has generally been underestimated (Pendleton et al. 2012), indicating the sea’s important role in carbon capture.”

The greatest challenge to effective delivery of biodiversity conservation is a scarcity of resource. The Isle of Man has limited access to external grants and funds for biodiversity improvement and the cost of managing biodiversity must largely be met from finance within the Island. The plan states that innovative ideas and incentives are necessary and should be combined with the creative use of public and private partnerships.

However, some conservation measures do involve spending less. For example, reducing the frequency and extent of roadside cutting to the minimum requirements for road safety can benefit hedgerow plants, animals and birds, whilst reducing expenditure.

Resources will be necessary for biodiversity conservation and habitat management

training, ensuring a succession of professionally qualified people with local knowledge. The input of skilled amateurs is also a useful resource which needs to be nurtured and trained, and volunteers working alongside Government officers will be important in delivering the Biodiversity Strategy. It is important that these volunteers take the time to understand the agricultural industry and its challenges and practices.

There is a crucial role for broader society, businesses and community groups in assisting in the delivery of this strategy. They have an interest in and can be a valuable resource in some projects.

### **5.2.7. The Wildlife Act 1990**

The Wildlife Act 1990 contains a duty on all parts of Government to 'have regard for' biodiversity. This needs modernising in line with best practice so that Departments and officers can demonstrate that biodiversity has been taken into account and its conservation furthered wherever possible and that it is compatible with statutory functions.

- Government/NGO partnerships can be a cost-effective way of conserving biodiversity.
- It is essential to engage with and harness resources from all parts of society, including from businesses and from the wider community.
- Conservation measures require an understanding of changes in wildlife abundance and distribution. Surveys cannot cover everything, so biodiversity indicators are monitored including trends in levels of our breeding bird species and surface water quality.
- There is potential for the Island to be a refuge from disease and other threats to vulnerable breeds or varieties of domestic animals (rare breeds) and cultivated plant varieties. This action supports the biodiversity strategies of other countries but is a lower priority for allocating Manx resources.

### **5.2.8. A strategy for the adoption of the 2006 Bathing Water Directive Standards in the Isle of man (Dec 19)**

This strategy outlines recommendations for the implementation of the 2006 Bathing Water Directive to provide enhanced protection to the public and visitors from pollution by faecal indicator organisms (FIOs) discharged in or near bathing areas.

It explains how runoff from agricultural land coupled with poor guttering/yard drainage and allowing livestock access to rivers or the water supply can add to elevated FIO's. According to the report:

- Increasing storage capacity for slurry on farm will reduce the quantity that is required to be spread on land, especially during adverse weather conditions
  - » Although this is true, this mitigation may also exacerbate the problem without education on proper slurry handling, as any slurry that goes into the tank must

go out at some point during the year. This may also encourage farmers to keep more animals.

- » Sources suggest that the amount of slurry tanks on the island may be limited, so this may be a lower problem than initially thought.
- Proper separation of rainwater from farmyards is important to reduce the likelihood that dilution with rainwater does not increase the volume of slurry
- Safety fencing can be used to prevent livestock from entering a watercourse
  - » As outlined previously, although safety fencing is a viable option the implementation of riparian strips would prevent cattle from entering the watercourse, mitigate any runoff while increasing the farm's carbon inventory.

### 5.2.9. Climate Change Mitigation Strategy 2016–2020

This strategy is aimed at reducing the Island's greenhouse gas emissions, and is the first in a series of 5 year plans to set out how the Isle of Man will achieve greenhouse gas reductions.

It does not currently outline any plans to produce a net emissions model, which will more accurately reflect agricultural emissions through the carbon sequestration conducted by soils, hedges and trees by reducing its 11%<sup>6</sup> total stated at the time the strategy was written.

- It outlines how it will not be possible to eliminate emissions that result from a natural process in soils and the digestive systems of farm animals
- It does, however, outline the process for an annual gross emissions inventory to be produced for the island using data collated by DEFA. This model will take into account six greenhouse gases:
  - » Carbon dioxide (CO<sub>2</sub>);
  - » Methane (CH<sub>4</sub>);
  - » Nitrous oxide (N<sub>2</sub>O);
  - » Hydrofluorocarbons (HFCs);
  - » Perfluorocarbons (PFCs); and
  - » Sulphur hexafluoride (SF<sub>6</sub>)
- These gases will be converted into tonnes of Carbon Dioxide equivalent
- It outlines the need for increased efficiency of farming practices, better use of nutrients and increased protection of land, such as peatland

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6 Figures from Aether Ltd received 17th March 2015 cover the period 1990 to 2013.

### 5.3. Isle of Man Food Policy

Food policy on the Isle of Man is focussed on a number of key components

1. Ensuring food security for the residents of the island<sup>7</sup>
  - a. Food security is seen as a high priority, and must consider the Island location, which is dependent on food supply from outside the island, as well as the encouragement of local supply.
2. The provision of food which is safe and nutritious<sup>8</sup>
  - b. "analysis of food is still carried out by Government Laboratory under the direction of the statutory Public Analyst, although the main concerns today are generally failings by food businesses that may be ignorant of some of the compositional or other standards required for food, or contamination of food with substances such as toxic substances or bacteria."
3. The development of new food businesses which service residents or create products which can be exported
4. The provision of support and assistance to existing businesses to enable them to develop their staff, products or facilities<sup>9</sup>.
  - a. "An analytical service is also offered to, and utilised by, food businesses on the Island, either to confirm that production is satisfactory, or to provide evidence of product quality monitoring that may be required typically by the larger retail outlets or for export purposes. Depending on the purpose, routine samples are submitted monthly, weekly or even daily, for microbiological examination and/or chemical analysis."
  - b. "Other assistance can be provided on an ad-hoc basis, for example when determining appropriate labelling for a new product, or investigating a problem."

The food policy is appropriate and identifies the important factors which need to be influenced by Government. Food security is an important issue for the island and is discussed later in this document.

### 5.4. Sector Competitiveness

#### 5.4.1. Primary Food Production on the Isle of Man

The Isle of Man is highly suited to certain types of agricultural production. There is some high ground which is primarily suited to sheep production, with other upland which is suitable for sheep and suckler production. There is also a significant area of good quality lowland which

7 [Isle of Man Government - Food security in the Isle of Man](#)

8 [Isle of Man Government - Food Safety and Quality](#)

supports dairy production and some arable land.

Production on the island is primarily constrained by the amount of land available, the type of land, the condition of land, inputs to the land, and weather conditions. Very significant growth in volume of primary production is unlikely, although some is possible. Instead the focus needs to be on maximising the efficiency with which current production levels are achieved, reducing inputs and improving resource use efficiency.

As discussed, the different sectors on the island have very different levels of productivity, driven by the introduction (or non-introduction) of optimised genetics, improved practice and new technology. The single largest factor driving increases in profitability is the collection and use of data.

In the UK and Ireland, data collection is high in the dairy and pig sectors, variable (but relatively high) in the cereal sectors, but much lower in the beef and sheep sectors. This means that the uptake of best practice in the extensive sectors is generally much lower than in the other sectors and the rate of progress is much slower. Our observations suggest that this is similar in the Isle of Man, but that it is possible that data collection in cereal production is considerably lower than in the UK.

#### **5.4.2. Processing capacity**

The island has three main processing plants. These include Isle of Man Creamery, Isle of Man Meats and the Laxey Glens Mill. There are a number of other smaller businesses producing other foods such as ice cream, cider, beer, etc.

We are relatively unconcerned about the level of processing capacity on the island in relation to the product which is being produced, as the three main plants (dairy, meat and milling) all have the capacity to process more product than is currently being supplied, although in some cases a significant uplift may require the acquisition of upgraded equipment or additional production space.

We are clear that, if production was to grow on the island, the processing factories would be able to expand to meet the demand for processing. What is less clear is the ability of all of the companies to be able to sell product off-island at a profit, and any growth in production would need to be accompanied by a focussed sales drive that opened up new markets (or developed existing ones) and that sales are supported by the reliable supply of product which meets customer expectation.

#### **5.4.3. Sector Performance/Competitiveness**

Figures on overall profitability of each enterprise type are not publicly available on the island, but feedback from a range of producers with whom we engaged during the research for this project revealed that the overall picture is similar to that in the devolved UK nations, although the island farmers do experience higher overall costs of input, including animal feed, fertiliser and pesticides, meaning that overall profitability is likely to be lower. However, a benefit

for tenant farmers on the island, is that cost of land rental is lower than in the UK, positively impacting farm profitability.

Ideally, some method of collecting and analysing sector performance figures should be implemented on the island, with ongoing monitoring of the development of each sector. The effective collection of this information would allow more accurate policy development and targeting of support. Our interpretation of the physical performance of each industry sector is shown in the following section, but it is important to note that this is not based on hard data, rather on conversations and feedback from individuals and organisations:

### **Dairy Sector**

As a whole, the dairy sector on the island is relatively profitable, with the better farmers in the Isle of Man having a strong focus on data collection and use, but it has experienced rising cost of inputs, as dairy farming is heavily dependent on use of significant volumes of cereals. The island producers have an advantage in that on-island milk pricing can be adjusted to reflect cost of production. However, this does not take away from the need for the industry to become increasingly efficient. It is worth noting that 50% of the dairy farms on the island produce 75% of the milk.

It is very difficult to draw any effective conclusions from the publicly available data on the dairy sector, but using similar farms across the UK and Ireland, the main foci for the sector are:

1. Maximisation of milk from grass
2. Selection for cow fertility and longevity
3. Maximising animal health and welfare through improved biosecurity, active veterinary health planning and through selection for improved health.

Data from AHDB shows the differences between the top, medium and bottom performing dairy farms and it is clear that there is a wide spread of practice and performance. The delivery of improved performance has the potential to deliver additional profitability, with a reduced impact on the environment.

Data from the DAERA team in Northern Ireland for 2021 shows that for a typical benchmarked dairy farm, every increase of £32 in the cost of a tonne of concentrates adds 1.0 ppl to production costs. DAERA also states that electricity costs £35/cow on an average benchmarked dairy farm in Northern Ireland, but this average conceals a range from £9 to £74 per cow. Finally, they state that an increase of £250 per tonne of fertiliser adds 1.0 ppl to costs. All of these figures are broadly applicable to the Isle of Man and show the potential for improved profitability through better resource use efficiency.

### **Beef sector**

The beef sector is experiencing a significant challenge, with the suckler sector in particular coming under strong financial pressure. The basic problem with suckler production is the relatively low level of output per cow. UK figures show that output of calves per cow usually

run between 0.8 (low performance) to 0.93 (high performance), but this means that the maintenance cost of each cow is being carried by less than one calf. This leads to a high cost of production, with the cost of wintering being the most significant factor. As a consequence, suckler beef production requires support to develop across several factors;

1. A substantially increased focus on enabling data collection at farm level
2. Maximising home grown forage production through effective land management
3. Minimising dam maintenance costs through selection for optimised cow size
4. Maximising animal fertility through optimising genetics and nutrition
5. Maximising animal growth through optimised genetics and nutrition

It is estimated across the UK that around 70% of suckler production is unviable without support payments, and this figure is likely to be higher again on the Isle of Man. Some of the publicly available statistics on cattle numbers allow the calculation of some of the performance metrics, and we have calculated that suckler cow production on the island is associated with a low output of calves per cow. Our estimates range from 0.69 to 0.77 calves finished per cow per year, which is well below that in other jurisdictions. Understanding the reasons for this is more difficult, but is likely to be related to less-than-optimal cow genetics, sub-optimal nutrition or missed cow heats/infertility in stock bulls. Figures from Teagasc in Ireland suggest that an increase of 0.08 calves per cow per year can increase returns per cow by €70 annually.

Increased focus on direct comparison of farm performance could identify ways of substantially increasing suckler cow performance at an individual farm level.

### **Sheep Sector**

In general, the Isle of Man is well suited to sheep production. With good grass growing conditions and the mild climate, sheep have the ability to remain outside throughout the year, avoiding the costs associated with housing. There are around 120,000 sheep in total on the island, comprising 47–50,000 breeding ewes and 10,000 replacement ewes. Approximately 30,000 lambs are slaughtered on the island, with around 20–25,000 being exported live to the UK.

These figures suggest that there are approximately 1.05 lambs produced annually per ewe, which is substantially lower than the UK regions or the Republic of Ireland. Profitability in sheep production is most closely related to the output of meat per ewe, with our calculations suggesting there is substantial room for improvement.

We believe that there is the potential to grow the output of the sheep sector, and the key focus areas are:

1. Increased fertility and lambing percentage of the flock. The highest performing farmers in the UK and Ireland have focused on improved genetics to maximise the number of lambs which are produced annually per ewe. Livestock figures produced by the Manx



Government show that the output of lambs.

- a. The increased productivity (though increased lambing percentage) can only be effectively driven through effective data capture and use. Our experience in many jurisdictions has been that many farmers select ewes which are in best condition at the end of the season. Many of these ewes are in good condition because they have either reared only a single lamb or, in many cases, have not successfully reared a lamb at all. This means that farmers are actually selecting for infertility and low performance. This can only be addressed through correct data recording and ewe management.
2. Increased lamb survivability, through careful breed selection and optimum ewe nutrition.
3. Increased focus on forage production and grassland management to maximise finishing from grass and a reduction in the amount of supplementary feed used.
4. Increased focus on reduction of parasites and disease challenge through improved record keeping, improved biosecurity, active veterinary health planning and through selection for improved health.

The above actions are capable of delivering substantially improved output from the sector without greatly increasing the breeding herd or the farm overheads. Our experience from other jurisdictions shows that this is a viable route to profitability. These actions have the potential to improve profitability on every sheep farm on the island.

Increased focus on collaborative working and on direct comparison of farm performance could substantially increase farm performance. The sheep production systems on the island are predominantly birth to slaughter or birth to export, and as a result, farms are not in competition with each other, meaning that data sharing, benchmarking and collaborative working have the potential to benefit all without any major downside.

### **Cereal Sector**

The cereal sector in the Isle of Man is under challenge. Select areas of milling wheat have traditionally been grown to supply the bakery on the Island. However, over the past year the bakery has closed, meaning that there is now no market for this product. Milling wheat attracted a higher price and was more profitable than other forms of production, and it is unquestionable that previous producers of milling wheat will see reduced margin.

Cereal production is relatively small on the island, but is important from a financial perspective. Actual figures on quantities grown and price achieved are extremely difficult to access, and as a consequence our figures are primarily based on the area of each product which is grown.

The cereals sector in the Isle of Man is disadvantaged in comparison to the UK, as input costs are higher (due to high transport costs onto the island), and the overall margin from export is lower for the same reason. Consequently, IOM producers need to deliver higher performance

than farmers in the UK to achieve the same level of profitability.

We estimate that approximately 17,000 tonnes of cereal are produced on the Isle of Man, with almost none of this being used for on-island consumption by the general population. Much of the cereal produced on the island is used for animal feed, with other product being exported. Our calculations suggest that there is a need for around 21,000 tonnes of animal feed required on the island, and although some of this will be protein product (such as soya) which will need to be brought onto the island, there is a ready market for almost all the cereal which is produced.

Because output figures per hectare are not available for the arable sector, it is not possible to carry out any form of comparison to other similar regions. This emphasises the importance of better data collection at farm and Governmental level.

The cereal sector is experiencing a range of pressures which needs to be addressed. Agricultural intensification has substantially increased, and this has led to reduced soil quality and reduced biodiversity, which are productively and environmentally detrimental. There is high use of fertilisers and pesticides and high levels of production are dependent on their use. Internationally, there is growing pressure to ban the use of specific pesticides, and some have already been withdrawn. This increases the pressure for uptake of new technology and practices which control weeds and improve soil quality to compensate.

Again, we believe that there is a real importance to increasing the volume of information collected about arable performance on the Isle of Man, and the absence of this means that farms are unable to easily identify areas for improvement. It is in the interest of all cereal farmers on the Isle of Man to compare performance and to focus on growing profitability together.

#### **5.4.4. Competitiveness of the Agricultural Sector on the Isle of Man**

The absence of widely collected performance figures mean that identifying and comparing performance on the Isle of Man to other similar sectors in the UK and Ireland is very difficult. Every other jurisdiction has some form of monitoring of farm performance, producing figures which can be used by other producers to assess their own performance to identify areas for improvement.

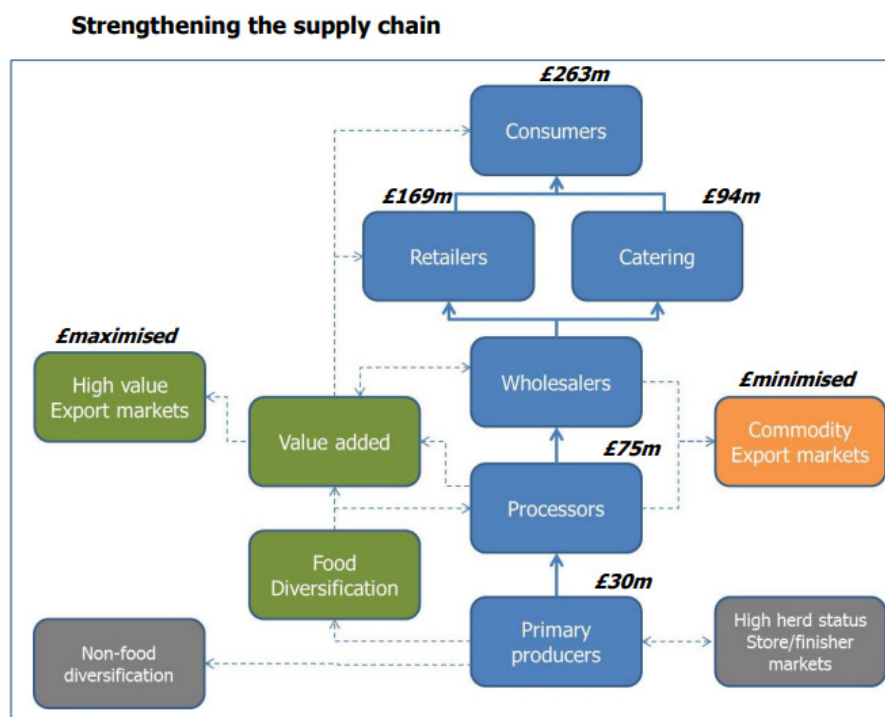
Island producers can, for instance, use figures from England to compare performance, but these figures will not be exactly representative of farm performance on the island.

Our assessment of farm performance on the Isle of Man is that it is comparable to the UK, but under increased financial pressure due to the higher costs of moving product on and off the island. This does mean that higher levels of support are necessary but should focus on steps which enable farms to improve the productivity and competitiveness

### 5.4.5. Cost benefit of Providing Industry Support.

Figures on overall industry performance, output and value are difficult to obtain on the island and their accuracy is difficult to verify. As a result, we have tried to utilise the verified information on the island (such as animal numbers, acres planted, factory throughput), and to match this to representative values of product to determine the overall value of output on the island. The information gathered during the Food Matters report is useful, agricultural commodity prices have risen substantially over the last few years.

The 'Food Matters' report from 2014 outlined the general value of the different sectors of the Agri-Food and other sectors. We have, as far as possible, updated the information from the primary sector and the food processors. The following diagram is taken from 'Food Matters':



The above figures include the value of seafood products, which are not included in our report, but give a strong indication of the value of different sections of the food production, preparation and sales industry.

Our calculations suggest that the value of primary production has risen by around one third. Figures for the processing sector are more difficult to find, but our calculations suggest that the sector has grown more slowly, with around £30-35 million worth of primary product processing.

Whilst some of these calculations are open to a degree of challenge, they are accurate enough to give a strong indication of the value of agriculture and agri-food to the Isle of Man economy.

It is clear that primary production of food on the island enables the presence of processors which use that product to generate additional value. The most obvious example of this is the Isle of Man creamery which converts much of its milk into cheese which can then be sold at a higher price point.

#### 5.4.6. Export

Export, although essential to business survival, devalues produce by 60% compared to selling it locally. As well as not adding as much to the local economy, there is also an increased cost of getting the product off the island while still selling it at a competitive price. This is added to the difficulty of supplying high-value markets when often, especially during the winter months, when there is no guarantee of on-time product arrival due to delays in ferry crossings resulting from inclement weather. It is clear that, to make get the most value possible from the products produced on the island, that on-island sales should be prioritised through effective sales and marketing techniques.

#### 5.4.7. Current Support for Agriculture

Over the last year, the Isle of Man Government have budgeted a net figure of £16,966,707<sup>9</sup> for support to the agricultural industry. This support is delivered in a range of ways and includes £7.2 million in direct support, as well as subvention for agricultural processors, the provision of animal health monitoring and support and the provision of a government team charged with the encouragement of productive, agriculture which is environmentally, economically and socially sustainable.

At current production and prices, we estimate that core agricultural production is worth between £34 and £42 million annually, depending on commodity prices.

This base level of agricultural production is fundamental to the ongoing success of around another £30 million of economic activity<sup>10</sup> at primary processing level, with sales of grain to livestock farmers on top of this. This is an estimated figure which excludes the value of seafood (which did not form part of this report).

We also estimate that around £8-12 million of beef, lamb, dairy and cereal products are exported annually, meaning that approximately £30-38 million of primary product is sold within the island.

Research work from England shows that there is a direct relationship between the proportion of product produced and sold locally, with every £1 spent with a local supplier being worth £1.76 to the local economy, and only 36 pence if it is spent out of the local area. That makes £1 spent locally worth almost 400% more to the local economy<sup>11</sup>. This may not be exactly applicable to the Isle of Man, but does emphasise the importance of driving local sales.

Our calculations suggest that, excluding retail sales, seafood and food service, the total economic activity associated with primary agricultural production on the island is around £107 million.

9 From a gross expenditure of £21,040,608, <https://www.gov.im/about-the-government/departments/environment-food-and-agriculture/>

10 Including £10 million meat, £16 million dairy, £1 million milling.

11 [LM3online | Calculate local economic impact and sustainability](#)

Government figures suggest that around 1300 people are involved in the primary and processing food industry in the Isle of Man, and at an estimated average income of £29,500 this provides £38.4 million of wages which are mostly spent within the Isle of Man.

#### **5.4.8. Tourism Benefits**

In addition to economic benefits associated with food, a 2012 report from the Isle of Man<sup>12</sup> suggests that the six main eco-services (outdoor recreation, aesthetic enjoyment of the landscape and marine environment, nature-related tourism, flood control, water-supply, and water quality regulation) that are provided largely as a result of the activities of the food producing sector was worth £42m to the island. This report is now ten years old and the value of these services will have substantially increased since then.

On top of these eco-system services, the Visitor Economy Strategy 2022–2032 “Our Island, Our Future<sup>13</sup>” is aiming to grow tourism to a target of £520 million contribution to the economy annually. The Isle of Man landscape is a vital component of this, and without appropriate management this target will be unachievable. With optimised incentives and collaborative working, the agricultural industry can play a major part in enabling this target to be achieved.

#### **5.4.9. Rural Economy Benefits**

It is worth noting that the removal of support for farming in New Zealand in 1984 did not result in a collapse in farm numbers, but it did result in a severe reduction in the number of workers at farm level, with an associated move from the countryside to towns as displaced workers sought alternative work. The knock-on effect of this was a severely reduced rural population, with an immediate effect on rural businesses which had grown up to support the population. Support which enables farmers to maintain and grow their businesses enables them to spend locally, maintaining the vibrancy of local communities, which helps to meet a key government aim – that of the Isle of Man being a great place to live and work.

#### **5.4.10. Summary**

It is clear that Government support brings very substantial financial and social benefits across the island, supporting agricultural and non-agricultural businesses.

Our analysis suggests that, from their initial investment of around £11 million in direct support and subvention, the Isle of Man economy benefits from economic activity of at least £100 million, with many more quantifiable and non-quantifiable benefits on top of this.

All those we spoke to on the island were clear about the need for direct agricultural support, but that the support needs to be highly focussed and targeted at improved productivity and environmental goods. Without government investment, it's clear that the agriculture sector on

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12 The economic value of ecosystem services from the terrestrial habitats of the Isle of Man, Brander and McEvoy

13 [our-island-our-future-isle-of-man-economic-strategy-november-2022.pdf \(islandplan.im\)](https://www.islandplan.im/our-island-our-future-isle-of-man-economic-strategy-november-2022.pdf)

the island would not thrive and indeed may go into decline, putting its key contributions to the island at risk.

The monitoring of the return on investment is challenging, in part because of the lack of performance data collected on the island. We believe that it would be a significant step forwards if an additional level of conditionality could be introduced, specifically the requirement to collect and submit full performance data for each farm on at least a bi-annual basis. This would include full inputs and outputs for each farm, allowing calculation of key performance indicators on each farm, including growth rates, cost per kg or tonne, fertiliser and sprays, fuel usage, power usage etc. This would provide a central database which could inform policy, but which could also be used to provide specific advice and guidance to each farm (through a variety of mechanisms).

## 5.5. Food Security

### 5.5.1. Statistics

The collection and use of effective statistics on seasonal food consumption on the island would be a significant benefit. We found it difficult to determine consumption on the island, as well as to identify the exact volume of food which leaves the island and how much is brought on. We believe that additional investment needs to be made in monitoring consumption, production, imports and exports.

### 5.5.2. Production Levels and Food Security

Using UK figures for household consumption<sup>14</sup> (which have been judged to be relatively close to those expected for the Isle of Man), total household meat consumption on the Island will be around 4300 tonnes, with production levels being around 2400 tonnes. This does not consider meat which is consumed outside the home, and, as a consequence we estimate that the Isle of Man is less than 50% self-sufficient in meat production.

Self-sufficiency levels are well below that in the UK, where self-sufficiency in beef is over 85%, lamb is around 100%, and pork production at around 60%. The absence of significant volumes of poultry production and pork production on the Isle of Man contributes to the low levels of self sufficiency in meat. Approximately 4000 cattle and about 17,000 sheep are sold live off the island every year and, if necessary, these could be retained on the island, providing approximately 1200 tonnes of additional meat. Over the same period, Isle of Man Meats processed 4000 cattle and 33,000 sheep.

With regard to potatoes, household consumption on the island is around 2850 tonnes, and production on the island is around 3250 tonnes. Foodservice and catering establishments will use a high volume of potatoes as well, meaning that the island is not self-sufficient for potato production either. Household consumption of vegetables is around 5700 tonnes, and very little of this is produced on the island.

14 [Family Food 2020/21 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/444444/family-food-2020-21.pdf)



The majority of cereals produced on the island are used for animal production, and only a small proportion was (until recently) used for bread production. However, the bakery has closed in the last year meaning that there is no ready market for milling wheat on the island and it is likely that production of it will cease, or at least drop very severely. This means that the island does not have a local source of bread production and that the materials to create the bread may soon not be produced on the island. Compounding the problem, the mill does not have the opportunity to easily export, as the flour is not fortified as required in the UK. It is possible (but not guaranteed) that one or more artisan bakeries could be established, but their use of milling wheat would be relatively small in comparison to what was previously used.

Dairy production is relatively strong on the island, with around 24-25 million litres of milk being produced annually, and household consumption of milk and milk products (excluding cheese) being estimated at just under 8 million litres. This means that the island is highly self sufficient for fresh dairy products. Much of the milk produced on the island is converted to cheese production. By value, approximately 60% of dairy production on the island is sold locally, with 40% to export markets, mainly the UK. Much of the cheese produced on the island is exported.

It is clear that there is a significant amount of meat and dairy exported from the island, with other similar food being imported to replace that which is exported. There is undoubtedly increased cost associated with this, and if additional product could be retained on the island, additional value could be retained. Our examination of Isle of Man Meats in particular showed that increased on-island sales would provide financial benefits. It is important to note that UK retailers require additional third party accreditation, and this can limit the ability of smaller food producers on the island to have their products listed. This can be addressed by obtaining approvals such as SALSA, but feedback has highlighted the reluctance of some smaller businesses to do this. This is a significant failing, and steps should be taken to require accreditation – even into local businesses.

### **5.5.3. Other factors which increase food security**

A number of factors combine to increase food security, and the following are all applicable to the Isle of Man.

#### **Profitable food producers and processors**

Without profitable agricultural or agri-food businesses, food security on the island is reduced. Food businesses which are profitable are more resilient in challenging times, whereas businesses which lack profitability are more vulnerable and likely to cease production. The loss of food businesses is usually associated with a reduction in food security unless the production is taken over by other businesses.

Feedback we have received, along with our own observations show that on-island food producers receive higher prices when selling on-island, and consequently from both a food security and an economic perspective, support which enables food producers to sell effectively on-island is extremely beneficial.



### **Increasing production volumes**

The production of larger volumes of food is always associated with increased food security, even if an increased amount is exported because exports can always be prevented if a crisis emerges.

### **Reducing Food Wastage**

Food wastage is still a significant challenge throughout the production and consumption chain. Estimates suggest that between 25% and 35% of food is wasted, a huge proportion which could be utilised to reduce food poverty, and reduce the environmental impact of the production of unnecessary volumes of food. The Isle of Man has a clear policy around reduction of waste and the encouragement of recycling, and ongoing focus is needed to deliver against the targets.

### **Addressing Food Poverty**

The Food Standards Agency defines Food poverty as the inability of individuals and households to secure an adequate and nutritious diet. It can affect those living on low incomes, with limited access to transport and poor cooking skills. There is food poverty on the island, and commentators suggest that this is growing. Food policy should include consideration of how food poverty can be alleviated.

### **Securing of transport links**

The ability of the island's ferry to travel during bad weather has a direct impact on the security of food supply to the island. More reliable travel will increase food security as well as the supply of consumable products onto the island.

### **Cost of importing food**

The cost of transportation of food onto the island also affects food security. If costs of transport onto the island are too high, the development of supply routes will be reduced and the ability to source additional food or consumer supplies will be restricted.

#### **5.5.4. Food Security Policy Development**

In 1996, a World Food Summit discussed and defined food security. They identified four main dimensions of food security,

- *Physical availability* of food: The physical availability of food is essentially the amount which is produced added to the food which is already stored. It also accounts for the trade in food which allows it to access food markets across the world.
- *Economic and physical access* to food: Sufficient production of food globally does not ensure that all regions will be able to access enough of it, or even that all households within a well supplied region will be able to access a nutritionally adequate diet.
- *Food utilization*: Food utilisation is the way the body makes use of various nutrients in the food. The consumption of a balanced diet is a function of cooking practices, varied

ingredient use, and the volume of food which each individual consumes.

- *Stability*: The final component of food security is the stability of each of the other three components. Adverse weather conditions, political instability, or economic factors (unemployment, rising food prices) can strongly impact the food security status of an individual or a region.

It is also important to distinguish between Food Security and Food Sovereignty. Food security is the ability of the population of the Isle of Man to be able to access enough food to ensure that they have a nutritionally complete diet. Food sovereignty is where a region has complete control over the production of the food which feeds its population.

Food sovereignty can contribute to either increased or decreased food security. In times of global shortage, the ability of a region to completely feed itself leads to increased food security, but under normal circumstances, being totally dependent on food production from one region can reduce food security due to the risk of disease or adverse weather conditions which can reduce or destroy production. It also risks food security from the perspective of ensuring that the population consumes a nutritionally balanced diet, as most regions only produce a limited range of foods. Conversely, a total dependence on imported food is also considered to be a food security risk, because there is always a risk (however minor) of disruption to normal trade flows which reduce the availability of food.

Food security is a consideration for the Isle of Man. The Island has approximately 80,000 residents, and does not produce enough food to fully meet the needs of its population. There are two responses to this:

1. Option 1: Increase production to meet the needs of the population
2. Option 2: Ensure that trade flows are such that the additional food is readily available via international trade flows.
3. Option 3: Implement a combination of Options 1 and 2, applying different food security rules to different types of food product.

#### **5.5.5. Option 1: Increase production to meet the needs of the population**

Option 1 could potentially be delivered but would require significant changes to existing production systems to increase the amount and variety of food produced. A national strategy could be established to ensure the production of a balanced diet for all on the Island. To do this would require that government established the quantity and type of products that would be required to meet the need, and this would need to be followed by legislation and policy which either incentivised or required the production of certain foodstuffs.

This is a highly interventionist policy and runs contrary to usual practice in the Isle of Man which is focused on delivering commercial products which meet the needs of consumers in the attributes and price of each product.

The land type and climate within the Isle of Man mean that the production of certain crops and vegetables can be difficult and expensive, and that as a result, the price to the consumer is much higher than it would be for imported product. This would, in some cases, actually reduce the food security of some households on the Isle of Man, particularly to those with a lower income.

Increasing food production on the island could be a good idea, but the primary reason for this increase should be that farmers can produce food which is economically profitable and environmentally sustainable, and which can be sold competitively either on the island or in international markets. Increasing production and profitability can have knock on benefits for the economy and social welfare of the island, but in our opinion, a strategy to deliver an increase based on increased food security alone is flawed and unlikely to work,

There is a strong argument for encouraging the on-island consumption of on-island produced food, and it is clear to us from other work that this is the most economically advantageous route for primary production on the island. Increased supply of Manx food will mean that the island is less dependent on other markets. However, from a producer's perspective, being completely dependent on one market is not always sensible because it brings increased risk to businesses which are already relatively low margin.

Regardless, food security will be increased if the island is able to encourage (or require) the production of a certain proportion of 'staple' products on the island (milk, meat, bread, potatoes). In reality, it appears that there is adequate on-island provision of milk and meat, but there is inadequate production of bread, vegetables and fruit. The loss of the on-island bakery does contribute to a reduction in food security, and consideration should be given to how bread production could again be restarted. There is some vegetable production on the island, including potatoes, but encouraging additional production is likely to be beneficial.

Almost all fruit eaten on the island is imported, and this is acceptable because the conditions on the island are not suitable for growing a large range or amount of fruit. Like other staple products such as pasta, the appropriate route to ensuring on-island food security is through establishing strong trading relationships which establish long-term supply of the required products.

The establishment of minimum import standards could benefit producers on the island, but could also decrease food security to the island as a whole and low income families in particular, unless there was an associated rise output from the island's farms. Minimum import standards would involve the setting of standards which could include measures around animal welfare, antibiotic usage, food miles etc.. The effect of these standards, if carefully chosen would ensure that a higher proportion of the island's production is actually sold on the island. This could have the impact of increasing food prices on the island, but would also encourage a greater amount of food production on the island.

There would also be several logistical barriers to this option, as it would require a means of

policing imports as currently the Isle of Man's border with the UK is fully open.

#### **5.5.6. Option 2: Ensure that trade flows are such that the additional food is readily available via international trade flows**

In our opinion, food security for the Isle of Man could be delivered through a combination of home based production and imported goods, in tandem with sufficient on-island storage to ensure continued supply of imported goods should ferry or air transport be suspended for extended periods of time.

It is sensible to take steps to maximise the consumption of home-produced food on the island, although in our opinion this should be done through promotion, marketing, messaging and persuasion rather than legislation. In the longer term there could be potential to utilise environmental performance to tax or disincentivise the use of off-island products which could be viably produced on the Isle of Man. However, care would need to be taken to avoid trade distortion or potential retaliatory sanctions.

It is also sensible to maintain good relations with suppliers of food to the island, and to make it as easy as possible for them to import food which meets Isle of Man standards of care for animal welfare and the environment. Ensuring appropriate long-term supply relationships is crucial to food security on the Isle of Man. This can broadly remain the responsibility of commercial businesses on the island, but Government must be aware of challenges and encourage behaviour which stabilises the supply of adequate volumes of food and consumables onto the island.

#### **5.5.7. Option 3: Implement a combination of Options 1 and 2, applying different food security rules to different types of food product.**

Option 3 would implement a combination of factors from Option 1 and Option 2. Consideration could be given to classifying different foods for their importance to food security under a range of definitions:

1. Staple food, short shelf-life: Milk, meat, bread
2. Staple food, medium shelf-life: Potatoes, vegetables, fruit
3. Important food: Pasta, Cereals, cheese
4. Other food: Jams, spreads etc.

Classification of foods into different groups would enable each group to be managed separately, with a different set of rules around on-island production, on-island storage, minimum and maximum storage levels.

Agreements could be made on-island with commercial organisations to store appropriate amounts of each individual product, and on-island minimum levels of production could be set for products such as milk and meat.

### **5.5.8. Actions which would strengthen current food security**

There are certain specific actions which need to be implemented regardless of which of the above approaches is implemented. These actions are:

- 1.** Undertake research to determine food consumption on the island – broken down by food type, origin of supply, product life and ability for the food to be substituted by another – and the current food production, importation and storage on the island.
- 2.** Assess local ambient and chilled/ frozen food storage for suitability and future proofing, and where potential gaps in storage are identified, implement agreements to ensure that these gaps are addressed.
- 3.** Review options to retain local food (not to export) for the local population in case of disruption in supply or logistics. The design of a 'retention' plan to ensure that food is available under emergency situations will increase food security.
- 4.** Review and plan options for fair distribution of available food in emergency situations.

## 6. Effectiveness of current policies

### 6.1. General views of policy on the Isle of Man

As part of the research for this strategy we were asked to compare policy and activity globally, to identify those which can deliver benefit to the Isle of Man. Unsurprisingly our research revealed that there is a relatively narrow range of topics on which agricultural policy is focused. The primary foci differs across different regions as priorities for various governments changes. These priorities are influenced by the level of production in each country, the main markets for each country, the environmental targets which each country has set, and the influence of society and pressure groups which are active in those regions. Broadly, however, the main priorities are as follows:

1. The encouragement of additional food production
2. The enabling of increased productivity
3. The ability of food producers to be economically sustainable
4. The ability for food producers to be environmentally sustainable
5. The driving of enhanced environmental protection
6. The prevention of environmental damage (air, water pollutions etc.)
7. The production of public goods
8. Enhancement of social welfare in rural areas

Our examination of the policies on the Isle of Man revealed that they address the main challenges facing the island. This conclusion was generally accepted by all we engaged with. However we regularly received feedback that there was not enough communication between individual departments responsible for different policies and also at times between certain sections of the industry, special interest groups and government. This can lead to duplication of activity, and at times, actions which have unintended consequences or inhibit delivery against other targets.

#### 6.1.1. Summary of Feedback

- There was broad agreement across the industry on the suitability of policies on the IOM
- There was agreement on the need to encourage efficient and highly productive food production
- There was agreement on the need to deliver practice which increase biodiversity
- There was agreement on the need to implement measures which deliver environmental protection
- There was almost universal agreement that environmental goods are desirable outputs

from agriculture

- There was general agreement between the agricultural industry and environmental stakeholders that the current agri-environment schemes are appropriate but that the payment levels for many of the actions are too low
- There was agreement across farming and environmental groups that farms should be paid for high performing environmental features or practices that are already in place on-farm
- There was agreement that the linking of diversification for agriculture to the need for additional tourist facilities may be beneficial
- There was concern that extensive tree planting would permanently take agricultural land out of production
- There was general agreement that there is a need to deliver support to grassroots farmers, but that this support should not be production linked.

## **6.2. The need to join up policies and strategies**

Our analysis of the strategies and policies on the Island suggests are that they are strong and well thought through, with clearly identifiable targets.

Discussions with a large number of stakeholders revealed that there was little dispute around the aims of these strategies, and that, if successful, they would deliver benefit to the island.

It was clear however that many of those we spoke to believed that significant benefit could be driven by a programme which joined up the different strategies and plans to encourage joint working and delivery against the overall aims for the island.



## 7. Isle of Man Support Schemes

A summary of the activities underpinned by the Isle of Man support schemes is provided below. In our opinion these schemes are again broadly correct and cover the appropriate areas. We believe that existing policies require augmentation in some areas and not a redesign. The policies already cover the key action areas and appear to allow the Government to deliver practical schemes which support the necessary development. The following section describes the main schemes which are operated on the island:

### 7.1. Environmental Development

Aimed at providing support for targeted initiatives that produce conserved and cherished landscapes, enhance biodiversity, sequester carbon, improve water quality, reduce flood risk and address the land management components of the imminent Climate Change Action Plan. Targeted initiatives include the following:

- Uplands
  - » New stewardship payments for appropriate habitat management.
  - » Support for drain blocking, fixing chronic erosion, creating buffer zones etc.
- Lowland – Agri Environment.
  - » Soil
  - » Crop management plans including winter cover crops.
  - » Nutrient balance audits.
  - » Soil sampling and liming
  - » Winter stubble, field margin and hedge management payments.
  - » Support sympathetic native woodland planting schemes.
  - » Maintenance, enhancement and creation of desirable habitats.
  - » Hedges and dry-stone wall repair.
  - » Low cost, big impact Biodiversity efforts
  - » Bat boxes, scrapes etc.
  - » Farm plastic disposal collection and drop off points.
  - » Support the Land Management components of the imminent Climate Change Action Plan.

### 7.2. Supporting Active Farmers

Delivery of support to businesses which are producing food, protecting the environment, and delivering catchment and landscape management.

- New stewardship payments for the Uplands and specific highly sensitive sites.
- Capital grant scheme.
- Enhance profitable productivity by supporting investment in capital assets and the adoption of new technologies
- FYM/Slurry storage and pollution control systems
- Diversification and Food processing
- Discretionary public access improvements
- Reseeding, Weed wipers
- Productivity advice.
- Ongoing processor support.

### **7.3. Productivity Development**

Supporting marketing, efficiency, knowledge, benchmarking and advice to sustainably improve farm profitability and secure the long-term viability of the industry, post-BREXIT.

This is aimed at creating an Environment where sustainable, productive agriculture can flourish.

- Provision of an Advisory infrastructure – Benchmarking, Monitor farm, peer to peer advice etc.
- Support, where appropriate, for new and existing food processing businesses

### **7.4. Business Investment**

Increasing investment through capital grants, business confidence and profitability.

- Capital Grants for new technology and infrastructure.
- Agricultural advisory provision.
- Training.
- Industry Education on and off Island.

### **7.5. Agriculture & Fisheries Grant Scheme**

#### **Capital grants towards**

- Costs of new buildings
- Building improvements

- New plant and machinery
- Hardware and software

### **Operating grants towards**

- Costs associated with the establishment of a project
- Costs of specific new marketing ventures
- Implementing quality standards
- Energy conservation

### **Training grants**

- Where the outcome of the training will:
- Add value to local produce
- Enhance existing production techniques/skills

The above incentives apply to existing and new ventures and businesses may submit repeat applications.

Applicants should make clear to DEFA the likely frequency and nature of potential future applications, to enable them to assess the appropriate level of support.

#### **7.5.1. Farm and Horticultural Improvement Grants**

Support is directed to supporting investment in capital projects that will enhance the capability of Agricultural and Horticultural businesses to grow their production capacity or improve their business efficiencies.

Such investment will be targeted towards items that

- reduce production costs;
- improve and redeploy production;
- increase quality of produce;
- increase the marketability of produce;
- improve hygiene conditions and animal welfare standards;
- reduce energy use;

### **Capital Grants**

This provides up to 50% of costs of new purpose-built buildings, building improvements and new plant and machinery. Repairs and renewals are not eligible for support. Consumables such as milking machine liners are not eligible; these are considered as operational costs. The level of support offered may be lowered where the Department considers there is a replacement component in relation to the investment, i.e., if the equipment is simply replacing

old equipment and not creating new economic value. A new machine that will generate new revenues and jobs may attract 40%, while a machine that is simply replacing a worn out one will attract nil; others which are a mix and will attract somewhere in that range based on the business case provided. The scheme also offers a further 10% if the person applying is classed as a young farmer.

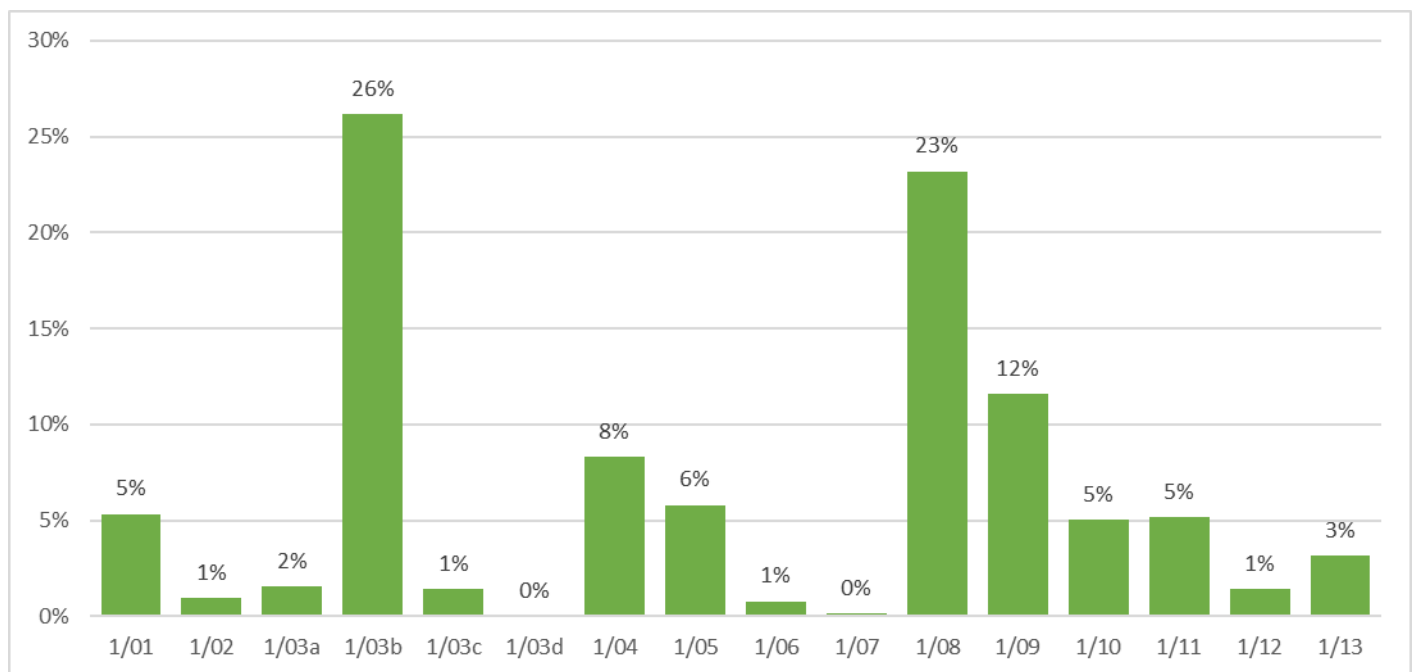
### Breakdown of Farm and Horticultural Improvement Grants

Farm and Horticultural improvement grants are specifically aimed at three sectors

- Agricultural Production Businesses (92% of applications since 2017)
- Agricultural Contractors (1% of applications since 2017)
- Horticultural Production Businesses (6% of applications since 2017)
- Commercial Beekeepers (1% of applications since 2017)

Since 2017, 85% of all applications have been improved which, due to the large number of applications indicates that there is a good understanding of the process from the sector.

### Agricultural Production Businesses



Grants for Agricultural Production Businesses are broken down in to 16 subsections for application purposes.

#### 1/01 – Provision or improvement of fixed disposal facilities for the handling, storage and treatment of agricultural effluents and waste. 5% of items applied for since 2017.

Predominately used for slurry facilities and equipment such as stores, scrapers, mixers, pumps etc. Apart from a few pieces of equipment, it has not been used to apply for low emission slurry spreading equipment such as dribble bars etc.

**1/02 – Provision of facilities for the safe storage and disposal of agricultural fuels.** 1% of items applied for since 2017 and has mainly been used for diesel tanks and fittings.

**1/03a Provision or improvement of permanent agricultural buildings.** 2% of items applied for since 2017 and mainly used for grain storage facilities.

**1/03b Provision or improvement of permanent agricultural buildings.** 26% of a items applied for since 2017 and used for a wide range of buildings for various different uses. There have been a few instances of it being used to apply for concrete flooring, which has been rejected.

**1/03c Dairy and parlour buildings including wall coverings and associated collecting yards, including internal fittings.** 1% of applications since 2017, used to repair buildings and order compressors and milk parlour upgrades.

**1/03d Intended for poultry production, including internal fixtures but excluding battery cage production.** No applications since 2017

**1/04 Provision or improvement of internal fittings for livestock buildings.** 9% of applications since 2017 and used for building upgrades and refurbishments such as cubicle mats, barriers, troughs and concrete panels.

**1/05 Provision or improvement of internal fittings for agricultural production storage buildings.** 6% of applications since 2017 and used for milking parlour conversions, silage pits and general building upgrades.

**1/06 Provision or improvement of permanent structures intended for the ensiling of grass.** 1% of applications since 2017 and used for putting floors in existing buildings.

**1/07 Provision of purpose-built containers or stores for agri-chemicals and medicines.** 1 application since 2017 for a Chemical/medical store.

**1/08 Provision or improvement of pens, dips, crushes or other facilities, including mobile equipment, designed and intended for use in connection with the gathering, treatment, management or handling of livestock.** 23% of applications in the sector since 2017 used to purchase mainly livestock handling systems, cameras etc.

**1/09 Provision or improvement of permanent boundary fences and gates.** 12% of applications in the sector since 2017.

**1/10 Provision or improvement of facilities for the supply of water, including the provision, replacement or improvement of facilities for water storage.** 5% of applications in the sector since 2017.

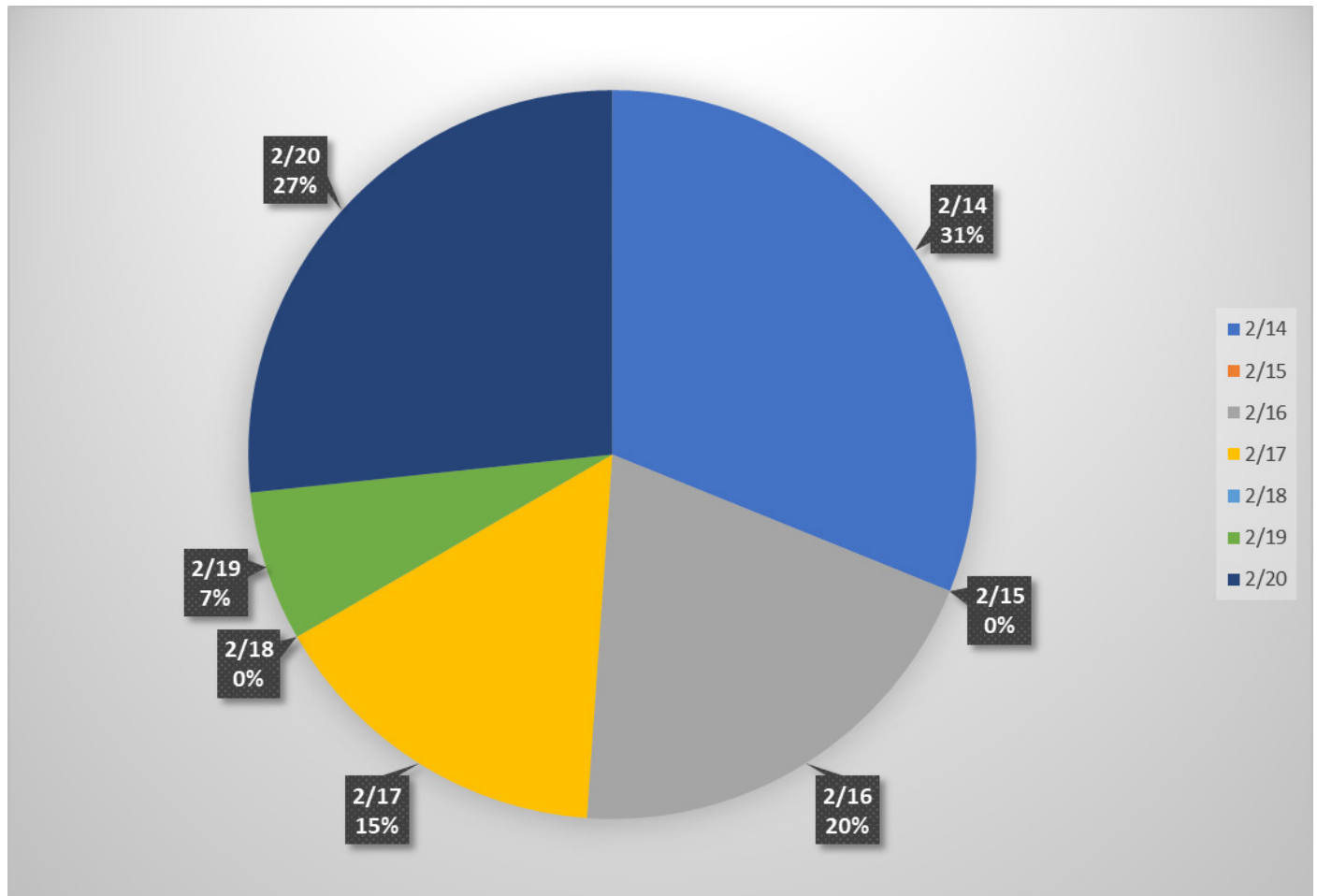
**1/11 Provision or improvement of milking and associated equipment, bulk milk tanks and geothermal pumps.** 5% of applications in the sector since 2017 and used for a range of milking parlour technology.

**1/12 Provision or improvement of facilities for the supply of electricity for agricultural**

**purposes.** 1% of applications in the sector since 2017.

**1/13 Purchase of labels embossed with an approved logo.** 3% of applications in the sector since 2017.

### Horticultural Production Businesses



**2/14 Provision or improvement of buildings used for horticultural production and glasshouses.** 31% of items applied for since 2017.

**2/15 Provision or improvement of internal fittings for horticultural production buildings and glasshouses.** No applications since 2017.

**2/16 Provision or improvement of plant or equipment designed and intended for the storage or preparation for market of horticultural produce.** 20% of items applied for since 2017.

**2/17 Provision or improvement of plant or equipment designed and intended for the irrigation of crops in the open, or in glasshouses.** 16% of items applied for since 2017.

**2/18 Provision or improvement of plant or equipment designed and intended for the control of pests and diseases of horticultural produce by non-chemical or biological treatment.** No

successful applications since 2017.

**2/19 Provision or improvement of plant or equipment designed and intended for the grading, weighing and sizing of horticultural produce.** 7% of items applied for since 2017.

**2/20 Provision of labelling material embossed with an approved logo.** 27% of items applied for since 2017.

#### **Agricultural Contractors**

**3/21 - Provision or improvement of pens, dips, crushes or other facilities, including mobile equipment, designed and intended for use in connection with the gathering, treatment, management or handling of livestock.** Received 11 applications since 2017.

#### **Commercial Beekeepers**

**4/22 - Provision or improvement of hives, separators, extraction equipment, protective clothing, bottles, jars and containers.** Received 5 applications since 2017.

#### **7.5.2. Success of the scheme**

Between 2017 and 2021 total costs of £3,480,186.01 of total costs were approved, £775,983.79 of which are grant payable, and £595,736.43 (77%) of which were paid out. 16% of these applications were from young farmers.

## **7.6. Agri-Environment Scheme**

### **Principles**

- Catchment Management
- Climate Change Mitigation
- Biodiversity
- Biosphere objectives

### **Targeted support to those actively farming**

Alleviate Climate Change through

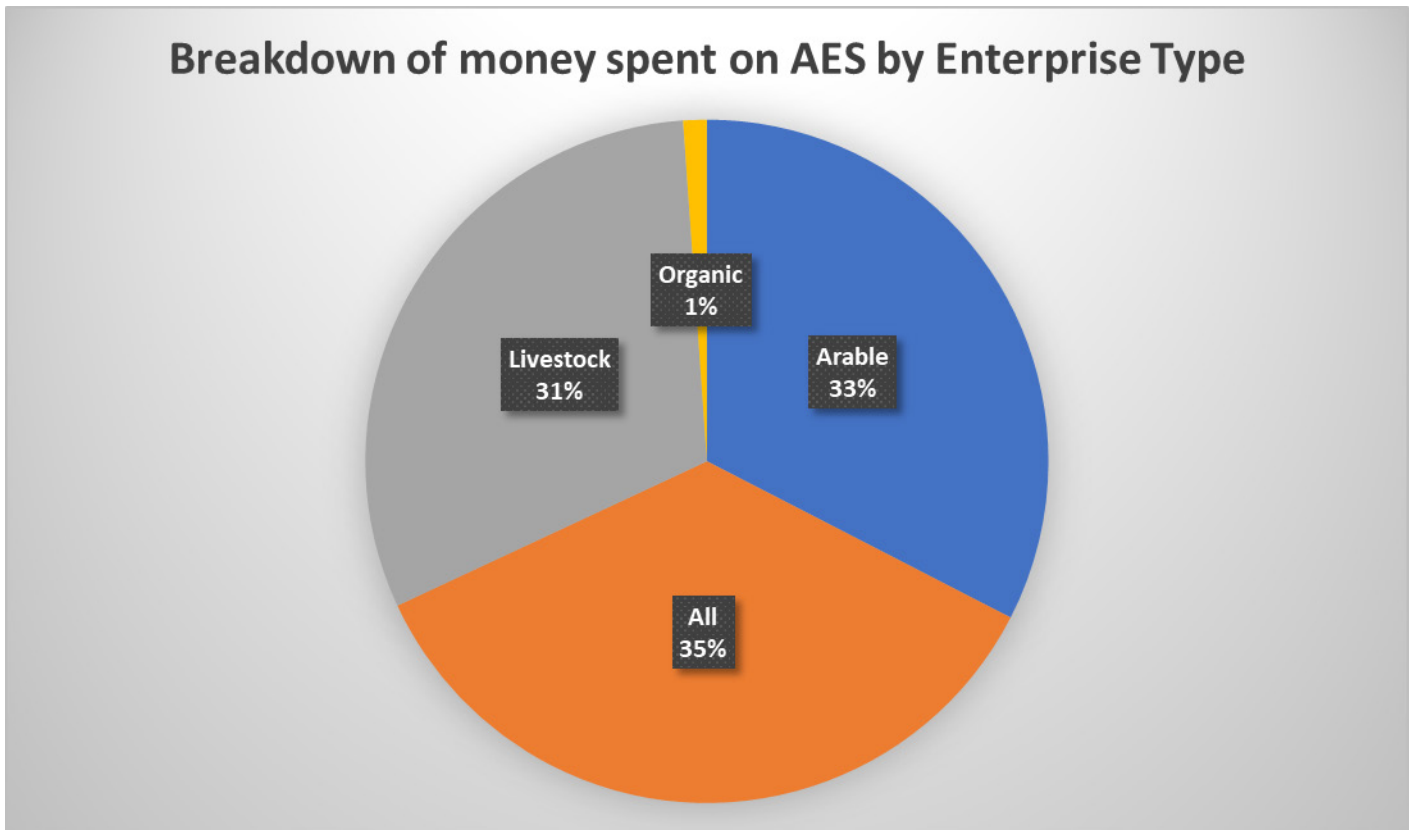
- Tree planting
- Peat enhancement

Stated that additional work on emissions is required

- Bathing Water Quality
- Catchment Management (slurry and soil)
- Land Management



### 7.6.1. Programme Spend



#### 5/01b:(i) Winter Stubbles

**6.8% of scheme**

**£53,358.86 approved grants in 2022**

**Purpose:** To provide foraging and feeding areas for birds such as yellowhammer, skylark, flocks of finches and tree and house sparrows.

#### 5/01b:(ii) Winter Fodder Crops – grazed

**1.7% of scheme**

**£13,419.30 approved grants in 2022**

**Purpose:** To provide cover and feeding areas for birds such as yellowhammer, skylark, and flocks of finches, including linnet.

#### 5/01b:(iii) Traditional Spring Cropping

**7% of scheme**

**£54,870.90 approved grants in 2022**

**Purpose:** To encourage seed eating birds and scarce arable weeds and provide a diversity of cultivation practices which leads to a greater variety of associated wildlife and plants.

#### 5/01b:(iv) Conservation Headlands

**0.9% of scheme**

**£7,221.60 approved grants in 2022**

**Purpose:** To encourage growth of a number of broadleaved weeds and hence the insects which feed on them. The weed seeds and insects in turn are vital food items for game birds,

yellowhammers and skylarks and encourage predators of aphids and other crop pests (such as ground beetles). Conservation headlands can be a refuge for rare and declining arable plants.

**5/01b:(v) Unharvested Cereal Headlands**

**1.8% of scheme**

**£14,230.47 approved grants in 2022**

**Purpose:** To provide an important food source for farmland birds and insects in the summer, and to provide both grain and seeding arable plants in winter.

**5/01b:(vi) Biennial Wild Bird Seed/Wildflower Strips**

**0.5% of scheme**

**£4,136.00 approved grants in 2022**

**Purpose:** To provide a year-round habitat for wildlife such as pollinators and birds.

**5/01b:(vii) Supplementary Winter Feeding for Farmland Birds**

**0% of scheme**

**No applications received in 2022**

**Purpose:** supplementary feed seed-eating farmland birds from December to April on arable and mixed farms through a period known as the 'hungry gap' when natural seed sources are depleted.

**5/01b:(viii-a) Buffer Strip on Cultivated Land**

**0% of scheme**

**No applications received in 2022**

**5/05a: Crop Nutrient Management Plan**

**6.5% of scheme**

**£41,517.94 approved grants in 2022**

**Purpose:** To reduce the risk of direct and diffuse pollution of rivers and streams, whilst maximising returns to the farmer.

**5/05b: Manure Management Plan**

**8.2% of Scheme**

**£64,716.83 approved grants in 2022**

**Purpose:** To reduce the risk of direct and diffuse pollution of rivers and streams, whilst maximising returns to the farmer.

**5/05c: Infield Grass Strips**

**0.3% of Scheme**

**£2,430.00 approved grants in 2022**

**Purpose:** To reduce the quantity of sediment, nutrients and pesticides transported through surface run off, both within field and from field to field.

**5/06a: Winter Cover Crops – not grazed or incorporated until 15th Feb**

**1.6% of Scheme**

**£12,841.00 approved grants in 2022**

**Purpose:** Minimise soil erosion and nutrient leaching.

**5/06d: Legumes Combine/Harvested Forage**

**3.2% of Scheme**

**£25,382.80 approved grants in 2022**

**Purpose:** To encourage the cultivation of nitrogen fixing crops.

**5/06e: The Creation of Legume Rich Swards**

**3.4% of Scheme**

**£27,281.10 approved grants in 2022**

**Purpose:** To encourage the cultivation of nitrogen fixing crops.

**5/06g: Plant and Animal Health – Integrated Pest Management**

**2.1% of Scheme**

**£17,003.47 approved grants in 2022**

**Purpose:** Optimising animal and crop production whilst maximising returns to the farmer.

**5/06h: Animal Health – Herd/Flock Health Plan**

**8.8% of Scheme**

**£69,645.02 approved grants in 2022**

**Purpose:** Optimising animal production whilst maximising returns to the farmer.

**5/06i Dairy Productivity Recording KPIs**

**1.5% of Scheme**

**£12,098.55 approved grants in 2022**

**Purpose:** Optimising animal production whilst maximising returns to the farmer.

**5/06j Beef Productivity KPIs**

**4.3% of Scheme**

**£34,342.99 approved grants in 2022**

**Purpose:** Optimising animal production whilst maximising returns to the farmer.

**5/06k Sheep KPIs**

**4.2% of Scheme**

**£33,033.14**

**Purpose:** Optimising animal production whilst maximising returns to the farmer.

**5/06l Other Livestock KPIs**

**0.0% of Scheme**

**£330.14 approved grants in 2022**

**Purpose:** Optimising animal production whilst maximising returns to the farmer.

### **5/06m Arable Cost of Production**

**0.5% of Scheme**

**£3,658.30 approved grants in 2022**

**Purpose:** Optimising animal production whilst maximising returns to the farmer.

### **5/06n: The Creation of Herbal Leys**

**0.3% of Scheme**

**£2,388.30 approved grants in 2022**

**Purpose:** To encourage the use of diverse herb rich swards which deliver enhanced animal performance and improve biological biodiversity.

### **5/01a (i) Woodland Planting Scheme**

**1.3% of Scheme**

**£10,398.25 approved grants in 2022**

**Purpose:** To extend and create new woodland composed of specific species. Monoculture woodlands must be avoided as these have a higher risk of failure in the future due to climate change, pests and diseases. A diverse range of tree species will have greatest value to native birds, moths and other insects and are capable of developing a diverse natural ground flora. Tree planting also delivers carbon capture and storage, reduced flooding, maintenance of soils and soil fauna, shade and shelter for livestock and crops.

**Drawbacks:** Land must exclude all livestock, which stops farmers using the grant to establish agroforestry or Silvopasture.

### **5/01a (ii) Dubs, Ponds, Scrapes and Wetland Habitats**

**0.3% of Scheme**

**£2,692 approved grants in 2022**

**Purpose:** To create new dubs, ponds, scrapes and wetland habitats. Benefits to biodiversity, as well as water storage to alleviate the effects of summer droughts and downstream flooding.

### **5/01a (iii) New Hedge Planting**

**0.9% of Scheme**

**£6,876 approved grants in 2022**

**Purpose:** To join other hedges and areas of habitat in localities where the network of field boundaries is fragmented and has been replaced by fences. This benefits biodiversity, carbon capture and storage, reduces flooding, improves soils and soil fauna, and provides shade and shelter for livestock and crops.

### **5/01a (iv) Farmer Initiatives – all**

**6.4% of Scheme**

**£49,968.42 approved grants in 2022**

**Purpose:** Any other habitat enhancement or creation options will be looked at with a view to paying for wildlife and landscape benefits. Where a particular species requires a particular management this option may be recommended.

### **5/02a Hedge Enhancement**

**0% of Scheme**

**No applications received in 2022**

### **5/02b Hedge Management**

**6.1% of Scheme**

**£47,961.05 approved grants in 2022**

**Purpose:** To provide enhanced hedge management to the benefit of wildlife.5/02c Dry Stone Walling, Repairing or Rebuilding

### **5/02c Dry-stone Walling, Repairing or Rebuilding**

**0.1% of Scheme**

**£960 approved grants in 2022**

**Purpose:** To create, maintain and replace dry stone walls in parts of the Island where these are an important landscape feature. Walls also provide a nesting habitat for birds, give warmth and shelter to lizards and butterflies, and shelter livestock.

### **5/02d Manx Sod Hedge Building, Repairing or Rebuilding**

**0.2% of Scheme**

**£6,786.12 approved grants in 2022**

**Purpose:** To create, repair or replace Manx sod hedges (stone faced earth banks) in parts of the Island where these are an important landscape feature. These banks provide a nesting habitat for many birds, gives warmth and shelter to lizards and butterflies, supports particular wildflower species such as harebell, primroses and sheep's bit scabious and provides good shelter for livestock.

### **5/03a Control of Invasive Non Native Plant Species**

**0.2% of scheme**

**£1,971.70 approved grants in 2022**

**Purpose:** To support the active management and eradication of infestations of any invasive non-native plant species listed on Schedule 8 of the Wildlife Act 1990, including Himalayan balsam and Japanese knotweed.

### **5/04b Water Protection Zones**

**0.1% of scheme**

**£424.80 approved grants in 2022**

**Purpose:** To protect banks of watercourses, ponds and dubs from erosion, prevent pollution of water by dung and silt and protect bankside vegetation from grazing and trampling by livestock.

### **5/06b Soil Fertility – Soil Sampling**

**0.2% of scheme**

**£1,513.17 approved grants in 2022**

**Purpose:** To match fertiliser use, organic and artificial, to crop need; optimising the use of

nutrients whilst maximising returns to the farmer.

**Drawbacks:** Low uptake on this part of the scheme should be properly assessed as using soil sampling to correct Ph on land is essential to nutrient uptake and lowering environmental uptake.

5/06c Imported Lime

#### **5/06c Soil fertility – Imported Lime**

**0% of Scheme**

**No applications received in 2022**

**Purpose:** Optimising the use of nutrients whilst maximising returns to the farmer.

#### **5/06f Organic Scheme Conversion and Management**

**1.1% of Scheme**

**£8,801.95 approved grants in 2022**

#### **5/06o Pest and Disease Monitoring (plant & animal)**

**0.2% of Scheme**

**£1,282.30 approved grants in 2022**

**Purpose:** Optimising production, reducing the use of pesticides, whilst maximising returns to the farmer.

#### **5/07 Wildlife Boxes**

**0.0% of Scheme**

**£300 approved grants in 2022**

**Purpose:** Provides nesting and roosting sites for specific mammals, birds and invertebrates

#### **5/08 Educational Visits**

**1.2% of Scheme**

**£9,280.00 approved grants in 2022**

**Purpose:** To let schools/youth groups visit a farm for educational experiences

#### **5/09 Upland Stewardship Scheme**

**15.3% of Scheme**

**£120,909.77 approved grants in 2022**

**Purpose:** To create a sustainable upland land management plan. The uplands are an iconic landscape of Isle of Man; they perform many functions including carbon storage, water storage and purification, maintain several rare and vulnerable plants and animals, provide a recreational resource and attract visitors to the Island.

### **7.6.2. Support Schemes**

Operational support schemes are as follows:

- 2008 - the single-farm payment model was introduced Countryside Care Scheme (CCS).
- 2016-2029 - Agricultural Development Scheme (ADS). Replacing the (CCS)
- 2020 Agri-Environment Initiatives Scheme.

The Isle of Man treasury agreed an enhanced annual budget of a rolling £1M for the Agricultural Sector. This funding was conditional on agriculture delivering environmental benefits and was to match an agreed 16% reduction in flat rate. The Agri-Environment handbook has been designed to deliver these goals. Due to COVID-19 full acreage payment was made plus £700K from treasury spent on Capital Grants etc.

It had been planned that the AFGS budget would come out of the £2m AES pot therefore the £700k that came from Treasury as part of the phase in of the AES was used to fund the AFGS - capital grants advisory and lime grant.

Unlike the current English proposals, the Isle of Man has preserved a significant proportion of the area payment. The link between headage and production is broken, but not all farmers understand this. It is agreed by many commentators and specialists that the application of headage payments eventually acts a disincentive to highly productive farming, focussing farmers on obtaining subsidy to provide profitability rather than animal and farm practice improvement.

Schemes also provide support for targeted initiatives that produce conserved and cherished landscapes:

- Enhance biodiversity
- Sequester carbon
- Tree planting and Peat enhancement.
- Improve bathing water quality
- Reduce flood risk
- Address the land management components of the imminent Climate Change Action Plan

Payment for growing winter fodder crops e.g. forage rape, kale or turnips

- Purpose: to provide cover and feeding areas for birds such as, yellowhammer, skylark, and flocks of finches, including linnet.
- The Creation of Desirable Transient Habitats (5/01b)
- Eligible land: Any cereal growing land in grass/crop rotation or where crops have been grown continuously. The area can be moved from field to field with rotations but not under sown. It may be necessary to exclude a field from the winter stubble option for a



year if under sowing is essential. Forage Maize stubble is ineligible.

- Payment Rate: £58/acre, Minimum area 2.5 acres per farm Maximum 20% of cereal acreage

## 8. Agricultural and Agri-Food production on IOM

### 8.1. Commercial background

The agricultural sector is facing a time of unprecedented pressure, with a range of competing demands from multiple stakeholders. The production of additional food is becoming increasingly important as the global population grows and demands more, as international, and national targets are set to reduce and reverse climate change and biodiversity loss, and as product input prices increase substantially. From a farm perspective, price rises have helped to offset costs and, in some cases, and have contributed to increased profitability in others, but the markets are volatile and consumer purchasing power is reducing and it is likely that diet and lifestyle choices will result which could have impact on agricultural and agri-food pricing.

### 8.2. Scientific Background

The scientific community are in broad agreement that the production of food places heavy pressure on planetary boundaries and is currently impacting ecosystem resilience (Gaupp et al. 2021<sup>15</sup>). The careful and informed management of food systems is therefore crucial. There is a need to consider food systems at a holistic level, within an ecosystem or Biosphere and in reality, the Isle of Man is better placed than almost anywhere else on earth to deliver this.

We see this as a very significant opportunity for the Isle of Man to draw in research funding and the research community, and to bring finance and new practice to the island as the Isle of Man leads the way in demonstrating that productive, commercially viable agriculture and agri-food production can be done in a truly sustainable manner.

We believe that agricultural, wildlife and government stakeholders should jointly agree key targets and key research questions, and to then approach key academic facilities with potential project work for which international funding could be sought. This could draw in funding to enable the delivery of accurate baselines across agricultural performance, environmental performance and biodiversity performance and may enable this to be continued for a period of years as new and best practice is implemented.

In this way, the island can attract funding, develop the reputation of its food and agriculture, identify solutions and assist the global community, potentially also increasing tourism to the island.

### 8.3. Key production challenges for Agriculture

As we talked to producers across the island, a number of key themes emerged. Some have been identified by producers, other have been identified by us. They are as follows:

1. **Relatively low profitability**, particularly around suckler cow production where many farms are unable to make profit. This is reflected in the dropping numbers of Suckler

15 Gaupp, F., Ruggeri Laderchi, C., Lotze-Campen, H. *et al.* Food system development pathways for healthy, nature-positive and inclusive food systems. *Nat Food* **2**, 928–934 (2021).

cows on the island.

- 2. Low measurement of farm performance.** Feedback suggested that a relatively low level of data collection takes place on farm in the Isle of Man and this means that farm performance is not really being measured. As part of the review for this report, we found it very difficult to obtain true performance figures for farms on the island. This indicates that there is a challenge around the collection of performance data, and there is also an absence of benchmarking, meaning that it is difficult for farmers to understand their relative performance and the areas in which their farm is strong or weak. This is much more pronounced with beef and sheep farms than with dairy, but some of the findings also apply as well. This is a whole industry problem, because a lack of data collection means that there is no baseline data against which targets can be set, practice changed, and improvement measured.
- 3. Relatively low uptake of advanced practice.** Due to the short duration of this report, it was difficult to assess the true uptake of best practice, but feedback from multiple producers suggested that many farms on the island have a very traditional approach and prefer only to manage stock rather than managing and developing the business as a whole.
- 4. High input costs for fertiliser and feed.** All fertiliser and a majority of concentrate feed have to be brought onto the island via the ferry and there is a high cost associated with this. It is important that nutrients are used optimally to maximise production and increase profitability.
- 5. Underperformance of the abattoir.** Multiple farmers highlighted the underperformance of the abattoir as something which is a significant challenge to the island's farmers. The abattoir only services a proportion of the stock on the island, with a high number of store cattle, cull cows and lambs being transported off the island for sale in markets or directly to an English abattoir. The abattoir was felt to be giving little direction in terms of production for specific markets, at specific times to either beef or sheep producers and it is felt that there is much more scope for the factory to become involved in influencing and guiding farm activity.
- 6. Poor marketing of product from the island into other markets.** There are a number of reasons for this, but it is a genuine problem which stops products receiving the prices which they could potentially achieve. However, a joined-up approach which targets very specific markets is necessary as the Isle of Man does not produce large volumes of any product. It is also important that the suppliers demonstrate their ability to consistently meet the demands of specific or niche markets before support is granted, as a failure to deliver against collective targets by one product will damage the sales of the other products in the collective.

## 8.4. Other challenges for agriculture

Discussions with producers and stakeholder groups indicated that there is a relatively low level of effective Knowledge Exchange which is taking place. Two Monitor Farms are present on the island, and whilst this was universally acknowledged as a good thing, multiple producers stated that more effort needed to go into implementing and demonstrating advanced practice and technology which is relevant to the island.

In addition, Knowledge Transfer events were widely criticized for being oversimplistic and pitched at the wrong level, and using examples from other countries which are not necessarily applicable to the Isle of Man. It is clear that the industry as a whole does strongly value learning, but they do not feel that the most up to date or appropriate messages are being communicated at all times. It is important to note that the focus on the provision of advice is very positive and should be encouraged, but it is clear that some modification of the existing provision would prove beneficial.

## 8.5. Key production challenges for Agri-Food

Agri-food processors and producers also face a range of challenges, some of which are shared by the agricultural sector and others which are not. The largest challenges identified were as follows;

1. **Lack of available labour.** The relative shortage of labour on the island was identified by many businesses as their biggest challenge
2. **Low skill levels.** The low availability of labour on the island is compounded by skills gaps which can only be addressed through training
3. **Cost of transport on and off the island.** Most businesses which exported mentioned the challenge of the cost of bringing goods on and off the island and it is clear to us that the ferry costs are a significant business inhibitor
4. **A relatively small island population** which restricts large scale business growth unless the business is prepared to export. There is still considerable potential to grow on-island sales, and this should also be a focus for development
5. **The apparent lack of suitable premises for food production** which could be used by start-up and micro businesses to initiate or expand a business. It is acknowledged that some premises are available for growing businesses, but there is little availability for units which bridge the gap from home kitchen to a full commercial production facility

## 9. The Environment on the IOM

In 2016, the Isle of Man was recognised by UNESCO as a Biosphere Reserve. This is a very strong benefit for the island and will result in improvements in the natural surroundings for those who live on the island and for those who visit it. It has the potential to be a marketing tool for the island, for the purposes of attracting tourists, attracting new residents, and in creating a story which can benefit the products which are sold off-island.

Its status as a Biosphere reserve does, however, place additional responsibilities on farmers and the food industry. Biosphere reserves are areas that have been identified by UNESCO to help promote their conservation and sustainable use. Biosphere reserves cover both marine and land-based environments, including coastal areas. All of these areas are important to the Isle of Man, and all interact with each other. From the perspective of this strategy, the land-based agriculture is most important, as activity on land can impact the coastal and marine environment.

Consequently, policy aimed at land-based practice must also be cognisant of impact in the coastal areas in particular, but also the marine.

The following priorities have been identified by the Isle of Man representatives as important for the Island to deal with from a global perspective:

- global climate change
- the biodiversity emergency
- protecting the natural world

UNESCO states that "Biosphere reserves are 'learning places for sustainable development'. They are sites for testing interdisciplinary approaches to understanding and managing changes and interactions between social and ecological systems, including conflict prevention and management of biodiversity. They are places that provide local solutions to global challenges. Biosphere reserves include terrestrial, marine and coastal ecosystems. Each site promotes solutions reconciling the conservation of biodiversity with its sustainable use."

The necessity for joined-up working has been highlighted as important. 'Joined-up' is a regularly used phrase and its importance can consequently be overlooked. However, like almost no other area, the Isle of Man has the ability to join up targets and policy from a position of knowledge, and with the ability to monitor and measure across a whole biosphere.

The Isle of Man has tabled a climate change bill that commits to reaching Net-zero carbon emissions by 2050. This will require the engagement of all industries on the island. Farming is in some way unique because, although it usually generates net carbon emissions, it also sequesters a large volume of Carbon and has the ability to sequester much more.

### **9.1. Low level of intensive production**

The island carries a significant advantage over many other areas of agricultural produce in that there is a very low level of intensive livestock on the island. There is two pig farms, and 4000 dairy cows, meaning that the level of slurry production is low in comparison to any other in the British Isles.

This means that many of the run-off and leaching problems seen in other countries are generally not a problem in the Isle of Man. We acknowledge that there have been some relatively isolated incidents, but they are few in comparison to other areas.

It is important that pollution incidents are reduced to zero and that all rivers, ponds and streams on the island demonstrate good water quality status. We believe that in the small areas where water quality is not optimal in the Isle of Man that a component of the agri-environment scheme is used to address the challenge.

The lack of intensive production also means that the island has a cleaner and greener story to tell, and this solid basis needs to be built on.

### **9.2. Biodiversity on the Isle of Man**

The maintenance and promotion of biodiversity is almost universally acknowledged as positive by scientists across the globe. Biodiversity loss is almost always negative. It is known that farming activities can contribute strongly to both biodiversity loss and gain. The historical move to monoculture agriculture, with larger fields and fewer hedgerows, as well as the increased use of chemicals is known to have had a negative effect on biodiversity.

Because of its farming systems, the Isle of Man has suffered lower biodiversity loss than many other developed countries, but there are many things which contribute to improvement across the island. Our conversations with farmers across the island revealed a surprising degree of recognition of and compliance with the need to increase biodiversity.

It is our opinion that the industry on the island is already prepared to take responsibility for improvement and, with the right information, tools and practices, will work to implement good practice.

### **9.3. On the ground opinion**

Discussions with a range of specialists indicated that the Isle of Man has multiple advantages that will permit it to manage the environment while maintaining a productive agri-food sector. The Manx Wildlife Trust indicated that the island has a lot of good habitat and a strong species mix. The island has extensive agriculture in comparison to the rest of the British Isles, the water quality is good, there is a good landscape, small farms and small fields with a high proportion of hedges.

Feedback from the Manx Wildlife Trust highlighted some **very good performance**.

Chough – the Isle of Man boasts an impressive 133 breeding pairs of Chough, against just 12 pairs in all of England, 57 pairs in Scotland, 4 pairs in the Channel Islands and just a single pair in Northern Ireland. The Isle of Man has around a third of the combined British and Manx breeding population (which is otherwise mainly restricted to coastal Wales). This species is wholly dependent on coastal Manx agriculture – and the Manx farming community have delivered very effective work in this area.

Hen Harrier – the Isle of Man boasts an impressive 38 breeding pairs of Hen Harrier compared to just 7 pairs in England, and 32 pairs in Northern Ireland. The Isle of Man has over 10% of the combined British and Manx breeding population. This is a bird of our uplands in summer and our lowlands in winter, and would appear to particularly benefit from winter fodder crops which attract small prey bird species. The Isle of Man population is doing well owing to an apparent lack of the illegal persecution found so widely in neighbouring jurisdictions.

Grassland fungi – a Manx priority habitat, subject to ongoing survey work by Manx Wildlife Trust and Isle of Man Fungus Group, which has recently found that the Island hosts some highly notable old permanent pastures of international importance for grassland fungi. Of note, these pastures are of great carbon value, as waxcaps are found on extensively managed pastures/meadows which have not been cultivated in a very long time. In autumn 2022 alone, five species which are globally threatened with extinction (IUCN Red List 3.1) were found on Manx pastures:

- Glistening waxcap *Gloioxanthomyces vitellinus* – Endangered (‘facing a very high risk of global extinction’)
- Pink waxcap *Porpolomopsis calyptriformis* – Vulnerable to global extinction
- Crimson waxcap *Hygrocybe punicea* – Vulnerable to global extinction
- Citrine waxcap *Hygrocybe citrinovirens* – Vulnerable to global extinction
- Date waxcap *Hygrocybe spadicea* – Vulnerable to global extinction

Small farms and small fields – Although the island has lost a significant amount of field boundaries (likely many thousands of kilometres) since the first detailed Ordnance Survey map was drawn in 1860s, it still maintains a unique network of small fields across the whole Island, with many being only a single acre in size.

Some **challenges** were identified, including the loss of mixed farming methods and production systems across the island which puts pressure on biodiversity. These challenges and some potential solutions were identified as follows:



Several Manx farmland birds are in trouble, some quite severely. Of the 48 Manx species recently classed as being 'Red-Listed' (or extinct) by *Birds of Conservation Concern in the Isle of Man 2021* (some population figures included in below table), 26 species (54%) are birds of Manx farmland and the farmed uplands. For some migratory species (especially Whinchat & Cuckoo), their primary cause of decline is likely not on the Isle of Man but elsewhere.

Smaller granivorous birds (dependant on the seeds of arable weeds and grains, along with insects at the chick stage like Tree Sparrow and Corn Bunting) are of particular concern, and Yellowhammer has very recently (2016) gone extinct on the Island. This is likely owing to agricultural intensification (which of course locally is still not as intensive as elsewhere) and the loss of mixed farming.

There are only around 10 pairs of Barn Owls left. A recent DEFA study of Manx Barn Owl carcasses found that they contained amongst the highest level of rodenticides ever recorded in the British Isles. The imminent cessation of DEFA-funded rodenticide provision is welcome, however, support for alternatives to poison is required – but these alternatives should not impact other species (for instance, the effect of feral cats on ground-nesting birds).

Birds which nest on wet ground (a habitat easily lost to drainage or abandonment) including Lapwing, Oystercatcher and Curlew are also in decline, as are those which nest in hay meadows (Corn Crake, Curlew). The loss of mixed farming and the loss of traditional hay meadows (versus silage) are a driver of this. The withdrawal of DEFA support for crow control around 2012 is thought to have negatively impacted these species.

The lack of support for maintenance of vernacular farm buildings, which are a Priority Habitat on the Isle of Man for their importance for bats and nesting birds, is a challenge, and in contrast to Agri-Environment Schemes within the United Kingdom, and consideration could be given by DEFA to this.

### **Other Influencing Factors**

It was noted that last year the area payment (ADS) was reduced by 18% in the lowlands and uplands, and this funded £1 million in agri-environment, along with £1million from government, meaning that additional effort could be put into the delivery of agri-environment schemes.

The Uplands were discussed with the Manx Wildlife Trust and a range of farmers. It was noted that the support schemes are much more focused on lowland ground. Approximately 1/3 of the island is upland almost almost all under the control of the government. Some of this land is overgrazed and some is potentially undergrazed. The Wildlife Trust believe that support for farmers to reduce grazing pressure in selected areas would be good. They also believe that it

could be useful to bring back cattle grazing in some areas of the Upland areas. The uplands benefit from the Uplands Management Scheme, delivered by MWT it works with upland farmers to devise management plans.

Knowledge exchange is seen as critical to management of the environment and the fact that there are only two Monitor farms which focused on productivity with no environmental remit is seen as a negative. Future Model Farms need to be futuristic and focus on reducing costs, increasing productivity and increasing biodiversity whilst minimising environmental impact.

It was also noted that there is no structured engagement between the agri-food processors on the Island and the Manx Wildlife Trust and it is our opinion that this type of formal interaction would be beneficial as the processors have the ability to influence on-farm activity.

### **Funding Challenges**

A range of challenges around funding for the environment were noted in discussion with Manx Wildlife, farmers and other environmental advisors, with suggestions that there has been slow progress and under-resourcing/funding in designation of Areas of Special Scientific Interest (ASSI), which are seen as essential components to protect key species and habitats. Some farmers are highly positive about ASSIs on their land, whereas some others see ASSI designations on their land as a negative thing. It is important that ASSIs are well rewarded to encourage farmers to manage them as an important part of their business and to report important habitat for designation.

The exclusion of existing wetlands from ADS and AES area payments which often results in them being fenced off, leading to them quickly becoming overgrown, resulting in net biodiversity loss. Equally, as existing areas of trees are excluded from ADS and AES area payments, this results in woodland pasture, a Priority Habitat of great benefit to farming and wildlife alike, receiving no support.

### **Summary;**

- 1.** The loss of mixed farming is seen as a challenge from a biodiversity perspective. The island has moved from a mixed farming landscape to one which is mainly focused on grass. This has damaged bird life due to a reduction in habitat and food. The introduction of clovers and herbal leys can help to address this, something already supported by the AES scheme.
- 2.** The reduced amount of arable production is also seen as a disadvantage, reducing species which are dependent on grains.
- 3.** Only 45 acres of vegetables are cultivated on the island, and it is believed that an increase in this amount would encourage the growth amongst a range of species.

4. Protein crops are also seen as beneficial for biodiversity, as well as being potentially beneficial for the livestock sector through increased amounts of locally produced protein for animal feed (something already covered by the AES scheme.), but it is acknowledged that the Isle of Man climate is not ideal for crops such as peas or beans.
5. A move to clover rich grassland and herbal leys (which are supported by the AES) would be beneficial from a biodiversity perspective and would also be useful in reducing fertiliser application and potentially in benefitting animal performance. Considerable research into the impact of different grass and herb mixes is ongoing globally and most projects are reporting benefits.
6. With regard to herbal leys and ideal grassland mixes, it was noted that the island does not have a champion or leading farmer who can demonstrate best practice to others. This absence is considered to be slowing down the uptake of potentially beneficial grassland practice, although one of the KEP development farms has recently created a herbal and legume rich ley to be used for demonstration purposes
7. Consideration needs to be given to supporting existing habitat on farm, as well as for wetlands and tree areas.
8. Virtually all of the activity discussed above is covered in the existing agri-environment schemes, but there was broad agreement that the level of support for individual actions is not sufficient.

#### 9.4. Climate Change: Global Warming & Mitigation

Historically, gross Carbon production has been used as an indicator of the environmental impact of farming. Whilst Carbon output can be a useful indicator, it is not always as accurate as it should be and fails to account for two factors which are important. Most calculations do not currently consider the rate of degradation of greenhouse gases.

Global Warming Potential is essentially the heat which is absorbed (and retained) by and Greenhouse gas (GHG). It is expressed as a multiple of the heat which would be absorbed by the same mass of Carbon Dioxide. This is quotes as Carbon dioxide equivalent (CO<sub>2</sub>e). By definition, Carbon dioxide has a GWP factor of 1. Two important gases for agriculture are Methane and Nitrous oxide, and over a period of 100 years the GWP of methane is 27.9 (one tonne of Methane is equivalent to 27.9 tonnes of carbon dioxide), and that of nitrous oxide is 273.

Methane levels in the atmosphere increased quickly in the 1980s and 1990s, but then stabilised. From around 2007 it started to increase slowly again and then accelerated. Methane is now acknowledged as one of the largest challenges in global warming<sup>16</sup>.

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16 What do we know about the global methane budget? Results from four decades of atmospheric CH<sub>4</sub> observations and the way forward: Published:27 September 2021 <https://doi.org/10.1098/rsta.2020.0440>

The existing science suggests that agriculture is not necessarily responsible for the sharp rises in atmospheric methane over the past number of years, but it does suggest that it is one of the factors which is within our control which could potentially help to reduce the impact. Myles Allen (Oxford University) has produced a series of papers which argue that that global ruminant production is no longer contributing to a rise in methane concentration, but he also agrees that there are steps which can be taken which will enable the existing ruminant population to contribute to global cooling. Many specialists across the agricultural industry agree with Alan, but almost all agree that it is still critical that ruminant agriculture moves as swiftly as possible to reduce its impact. The literature lists a range of activities which should be considered by the majority of ruminant farms. These are focused on the improvement of feed utilisation by animals and include the following:

1. Improved animal genetics
2. Improved animal health
3. Optimised diets
4. Utilisation of methane inhibitors in animal diet
5. Increase production per animal

The Climate Trust in the USA states that "Feed additives can inhibit microorganisms that produce methane in the rumen of cattle. The additives can be natural feed supplements like garlic, or plants like kelp. A few controlled studies have been conducted to determine the reductions associated with feed additives. Sunflower or canola (Rapeseed) oils can reduce methane emissions by 9-27%"<sup>17</sup>

These are important steps and should be considered by the Isle of Man Government as part of the strategy for Agriculture and the environment.

## 9.5. Use of Climate Change Support

The island has made a £50 million fund available to support activity which can enable delivery against climate change targets. Half of this funding is available for capital projects and half for revenue projects.

Approximately half of the full amount is already committed, leaving a fund of £25 million still available. Individual farmers cannot apply to this fund, but there is an opportunity for industry representatives to do so, or in fact DEFA could also design schemes to further encourage the implementation of practices which reduce environmental impact.

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Philosophical Transactions of the Royal Society

17 [The Climate Trust | Feed Additives to Reduce Enteric Fermentation Methane Emissions](#)

We believe that there are a very wide range of activities which could be implemented on-farm which would impact climate change, and these can be encouraged by the design of schemes to reward uptake and/or disincentivise poor practice. These schemes could be administered across supply chains (such as the dairy chain, beef or lamb supply chains), or could be operated as stand alone schemes, although further investigation is required to determine which would be of most benefit to the Isle of Man.

We believe that consideration should be given to joint industry/DEFA creation of a climate change amelioration scheme, potentially connected to the environment schemes which are already being operated. Much of the activity which will benefit climate change can also benefit the economic performance of farms and may also carry biodiversity benefits. This is an example of where individual strategies and policies can be joined up, as effective farm management (and incentivisation of good practice) can deliver against business, environmental and climate targets for the island.

## 10. Competing Demands

### 10.1. The Moral Arguments around Agriculture

World population is increasing, as is economic purchasing power (despite the recent global economic challenges). This means that the demand for food production is increasing very substantially and will continue to do so. Estimates from GIRA, based on the year 2000 as a reference year suggest that, by the middle of the century, demand for food will have essentially doubled against the reference year. Without an increase in supply, global hunger will result, and in reality, it will be those in the weakest economies who will suffer. Consequently, there is a moral obligation on agriculture to produce additional, high quality, food.

It is equally true that the human population is putting environmental stress on our planet, with food production being one of the largest impacting factors. Agricultural producers are also morally obligated, therefore, to reduce our impact on the planet. Agriculture is one of the sectors which can potentially influence environmental impact the most.

Consequently, agriculture, and those governing it, face a large challenge to ensure global food security whilst addressing the climate emergency. This is a difficult task, but not an impossible one, and should be addressed via a number of methods. These include:

1. Implementation of methods which optimise productivity in agriculture
2. The creation of a culture which values two outputs from agriculture – food and environmental goods
3. The promotion of actions which benefit both production and the environment
4. The generation of science which produces new practice and technology which can mitigate impact on the climate and/or increase overall productivity
5. The setting of baselines and the ongoing monitoring of environmental, biodiversity and production KPIs
6. The creation of policy based on empirical evidence
7. The creation of highly effective knowledge exchange networks which are coupled with incentives and disincentives to obtain appropriate responses to societal need

### 10.2. The demand for increased food

World population is growing. In addition, many regions are displaying increased economic wealth, with rapid growth in the middle class. This combination of population and economic growth means that there is both a need for and the demand for increased food production. However, this demand is generally happening in countries outside the UK, Ireland and Western Europe. This means that prices on offer are normally at world price levels, unless specific markets can be identified and targeted. However, the overall increase in demand against

supply is likely to inflate food prices on a consistent basis over the next decade or more.

### **10.3. The demand for reduced impact**

In addition to the demand for increased food production, there is also a pressing need for the agricultural sector to reduce its overall impact on the environment. There is a large international focus on the reduction of carbon, but good environmental practice goes much further than this, including the reduction of air pollution, water pollution and run-off, as well as the protection and enhancement of habitat to promote biodiversity, the improvement of soil health, as well as the improvement of resource use efficiency.

Achieving an increase in production with a reduction of impact is very challenging, and requires a joined-up approach between industry, government and a range of stakeholders and support organisations.

In general, there is the recognition amongst most farmers that agriculture must reduce its impact, but there is also a lack of understanding about the actions which can be taken. This is partially due to difficulties in the Knowledge Exchange of a newly established programme and the need for further development, but is also because, in some instances, there is no specific solution, or the potential solution has not yet been sufficiently developed or tested.

Essentially, there is the need to collate best practice and to simply and repeatedly transfer this to farm level. There is also a need to work alongside scientific providers to develop and prove new solutions.

75% of the Isle of Man's land is in productive agriculture, and Land Managers have great potential to impact biodiversity and environmental sustainability. It is therefore essential that the IOM works with industry to develop a forward-looking culture which encourages the uptake of best environmental practice through ongoing messaging.



# 11. Components required to deliver against aims and strategies

## 11.1. Components

### 11.1.1. An agricultural sector which is economically sustainable

1. Baseline and benchmarking information for all farms which allows Farm Managers to understand how their unit is performing in comparison to other units and to make improvements where possible.
2. A production sector which optimises use of resources to minimise inputs while maximising outputs
3. An agricultural sector which is data driven, using data to guide genetic and practical changes to deliver optimum resource use efficiency
4. An agricultural sector which uses advanced practices and technology to deliver high performance
5. Market development to enable premium prices to be obtained for Isle of Man food products
6. Optimisation of sales to optimise final price for products

### 11.1.2. An agricultural sector which collects a wide range of data and which makes decisions based on this data

1. An understanding across the industry of the importance of using data.
2. A range of KPIs against which each farm measures itself
3. A range of tools and technology on every farm which is capable of collecting data and submitting it to a benchmarking database
4. A range of incentives to encourage the uptake of measurement against KPIs
5. A baseline for each KPI against which each Farm Manager can measure and improve the farm

### 11.1.3. An agricultural sector which produces a range of products which are ideally suited to the growing conditions of the island

1. A clear understanding of the types of production which is suited to the island
2. A recognition of the value of triple outputs from agriculture
  - a. Food
  - b. Energy

**c.** Public goods

3. A distribution of production (food and public goods) across appropriate land parcels on the island
  - a. Intensification of some land areas
  - b. De-intensification of others
4. Exploration of the potential for new or altered production on the island
5. An appropriate amount of ongoing research to identify improved practice or alternative production for farms on the island
6. Creation of a Land Strategy for the Isle of Man

**11.1.4. An agricultural sector which contributes strongly to food security of the Island**

1. An understanding and definition of food security and the components which influence it
2. Clearly identified production targets which are met by the industry

**11.1.5. An agricultural sector which is more advanced than any other in the world, with widescale uptake of best practice and the most appropriate technology**

1. Clear aspirational target setting for the industry on a sector-by-sector basis
2. Identification of best practice and optimum technology which can enable the sector to achieve the inspirational targets
3. Effective Knowledge Exchange and demonstration to encourage uptake
4. Design of policy, legislation and support schemes which enable and encourage uptake of factors which enable advanced practice
5. Where necessary, enforcement practices which can enforce any targets or legislative requirements

**11.1.6. An agricultural sector which is helping to mitigate climate change**

1. Identification of baselines for Climate Change Impacts of each farming sector on the Island, including individual farm baselines
2. Identification of practice which can mitigate climate change effects and eventually move the industry towards climate change targets
3. Target setting on a per sector and per farm basis, with implementation of practices which are specific to each farm. These targets should fit within the whole island climate change plan
4. Design of policy, legislation and support schemes which enable and encourage uptake of best climate practice

**11.1.7. An agricultural sector which is actively improving biodiversity**

1. Development and ongoing data gathering to create baselines which identify current biodiversity on each farm, and which enable measurement of improvements in the future
2. Identification of practices which can increase biodiversity, with a focus on the practices which have the best potential cost/simplicity/effectiveness balance
3. Effective Knowledge Exchange and demonstration to encourage uptake
4. Design of policy, legislation and support schemes which enable and encourage uptake of factors which encourage uptake of best practice
5. Where necessary, enforcement practices which can enforce any targets or legislative requirements

**11.1.8. An agricultural sector which actively supports vibrant rural communities through economic activity in local regions**

1. An agricultural sector which is financially robust
2. An agricultural sector which delivers employment for local people
3. An agricultural sector which spends money locally, enabling and encouraging other businesses to succeed
4. An agricultural sector which actively improves the local environment

**11.1.9. An agricultural sector which creates conditions which attract tourists to the island and helps make the island an attractive place to live and work**

The delivery of this target requires the following:

1. **An agricultural sector which delivers effective environmental management** which ensures that the landscape is pleasant for both tourists and residents.
2. **Specific macro targets for landscape enhancement and biodiversity growth** which can be addressed by the industry
  - a. Financial and advisory support for delivery against the landscape enhancement and biodiversity growth targets
3. **An agricultural sector which is enabled to diversify** to provide accommodation and attractions for tourists.
  - a. Clear accommodation requirements to enable development of tourism on the island
  - b. Planning facilitation to enable delivery against diversification targets

**11.1.10. An agricultural sector which markets on the basis of high eating quality, high human health, and high environmental performance**

The delivery of this target requires the following:

1. Measurement of baselines
  - a. High productivity
  - b. High environmental performance
  - c. Health characteristics for human consumption
2. Demonstration of high performance through use of baselines
  - a. Use of the baselines and measured improvements to demonstrate environmental credentials
3. Use of Farm Assurance (or equivalent which is currently required by the Creamery, Meat Plant and the Mill) to provide independent assurance of best environmental practice
4. Documentation of on-farm practice which can positively impact eating quality of beef, pork and lamb
5. Creation of eating quality protocols which are adhered to by farms and food factories to establish Isle of Man food as amongst the highest in the world
6. Documentation of the high-health practices on IOM farms, as well as the minimal use of fertilisers, sprays and supplementary feeding

**11.1.11. An agricultural sector which shares targets with other sectors and organisations and which works in conjunction with them to deliver against these targets**

1. Joined up whole Island targets with apportioned responsibilities and timelines for delivery
2. Incentives for cross sectoral and/or joined up working

**11.1.12. An agricultural sector which works with a range of other organisations including environmental organisations, wildlife organisations, tourism organisations, government etc. to ensure holistic delivery against key targets**

The delivery of this target requires the following:

1. **Joined up targets** between departments, organisations, and individual business sectors, with individual programmes for each sector which share targets, share some actions, and also have targets specific to their area which contribute to delivery of the shared targets.
2. **Strong working relationships between individual sectors and departments**, facilitated

by regular action-oriented meetings focused on delivery of joint targets and shared activity.

- 3. Clear actions for each sector.** Agreed targets require that clear actions are agreed within each sector or organisation. Some of these may be joint actions, others will be individual to the sector.
- 4. Creation of Activity Forums/Task and Finish Groups** which enable sectors and/or organisations to jointly deliver against shared targets

#### **11.1.13. An agricultural sector which attracts young entrants**

The delivery of this target requires the following:

- 1.** A sector which is more vibrant, forward looking and economically successful
- 2.** A sector which has a high uptake of labour-saving technology
- 3.** A sector which has clear, achievable targets and the means to deliver against them

#### **11.1.14. An agri-food sector which contributes strongly to food security of the Island**

- 1.** An agri-food sector which is innovative and is constantly attempting product development or process improvement
- 2.** An agri-food sector which contributes positively to the balance of trade for the island
- 3.** An agri-food sector which provides a wide range of employment with good career development
- 4.** An agri-food sector which is not dependent on large amounts of government subsidy
- 5.** An agri-food sector which drives strong income for the agricultural sector on the island
- 6.** An agri-food sector which markets its food extremely well and drives high returns for high quality product

#### **11.1.15. An agri-food sector which markets well to local consumers and maximises local purchasing, as well as supplying high value niche markets off the island**

## 12. Factors Influencing Future Agricultural Strategy and Policy

The Isle of Man is unique and has tremendous potential. Its economy is strong, based on a range of financial and professional services, e-sports, tourism, and food production. On average, salaries are high (relative to the UK) and taxation is low. There is no inheritance tax, no land tax, no stamp duty, and no capital gains tax.

The island is known for a number of sporting events, which are only one of the attributes and attractions which draw visitors to the island. There is a strong Manx culture, and the island produces a wide range of foods.

### 12.1.1. Driving factors

We have identified the following factors as important for consideration within strategy and policy development:

- Food Security
  - » The need to produce food
  - » The need from a global perspective to increase the production of food
  - » The need to ensure food security through having a combination of food produced on the island and food imported from elsewhere.
- The need to reduce the impact of food production on the environment
  - » Net Carbon improvement
  - » Reduction in global warming potential resulting from agricultural activities on the island
  - » Improvement in environmental resilience
  - » The need to preserve and increase biodiversity
- Marketing
  - » The ability to develop premium markets for produce from the Isle of Man to increase return to the farmer and agri-food business
  - » The ability to encourage Manx people to purchase Manx product
- Economic Return
  - » The need to generate sustainable economic return in each business
  - » The need to increase economic return in each business
  - » The need to balance trade through exporting from the island

- Rural Communities
  - » The need for a vibrant rural economy
  - » The need for vibrant rural communities
  - » The need to ensure that the Isle of Man is a good place to live
- Tourism
  - » The need to encourage tourism to the Isle of Man

### 12.1.2. Influencing factors

Multiple factors influence the output and delivery at a farm level. The following factors impact the efficiency with which the goals of the industry are achieved.

- Farm productivity
  - » Soil management
  - » Animal genetics
  - » Precision inputs
  - » Diet optimisation
  - » Automation
  - » Data collection, interpretation and use
- On-farm resource use
- Control of farm run-off
- Control of farm emissions
  - » Ammonia
  - »  $\text{NO}_s$
  - »  $\text{CO}_2$
  - »  $\text{CH}_4$
- Biodiversity habitat
  - » Hedges
  - » Trees
  - » Un-farmed area

### 12.1.3. The impact of transport costs

Costs of transport of food and livestock are a significant factor to consider when developing



future policy. Transport costs have a significant effect on the cost of food and food production on the island, and the majority of the food consumed on the island is produced off the island and has to be brought on. The island also produces food which is exported mainly to the UK and this is transferred off the island via the ferry.

For many businesses, the costs to get food and livestock on and off the island are seen as a significant challenge. Ferry prices are felt to be contributing to food inflation on the island, particularly for low value, high volume products such as bread. We received cost of import figures of 60 pence per loaf, and 90 pence per cauliflower. The figure for bread is concerning, particularly because the island no longer has its own functioning bakery, meaning that all bread must be imported.

The ferry company does offer different charging rates depending on the product which is being transported, and it was suggested by a number of those interviewed that the list of products on the discounted rate needs to be increased, enabling food inflation to be controlled better and food security to be improved.

We believe that it is important for government to consider methods of reducing the cost of transport of key products, on and off the island. We recommend consideration of a study which investigates the impact of transport costs on the overall economy of the island, followed by optimisation of costs to deliver maximum benefit to the island's economy.

#### **12.1.4. Target Setting**

Target setting is a key component of effective improvement, and it is important that targets are identified and used to direct policy creation or modification. Target setting requires that the end goal is known – in other words, what the vision is for the agricultural or agri-food sector from an economic, environmental, and social perspective. The ability to make progress demands that measurement is undertaken – baselines must be set, and regular re-measurement must take place.

### **12.1. Principles of Good Policy Creation**

As we delivered research for this report, it became clear that there were a number of very clear principles which guide the creation and generation of effective policy. These are as follows:

- 1.** A very clear view of the outcomes which are required and target setting around these outcomes
  - a.** Overarching strategies
  - b.** Individual targets
  - c.** Individual actions
  - d.** Joint actions

- e. Expected outcomes

## **2. Clear justification of the reasoning behind the targets and outcomes**

- a. Explanations of reasoning for policy and legislation helps industry to get behind activity

## **3. A clear understanding of the data which is required to inform and guide change**

- a. Baseline data
- b. Measurement of change over time
- c. The development of clear performance indicators which can be used by government and business

## **4. A partnership approach: The joint development of policy and enforcement** between government and industry, which also takes into account societal and expert opinion

- a. Development targets should be science based rather than opinion based
- b. Development targets should be responsive to the emergence of new science and technology

## **5. Clearly defined practice, activity, costs and benefits**

- a. Clearly defined practice and activity which will enable stakeholders to deliver against the agreed targets
- b. Clearly defined benefits and costs for each activity
- c. The production of a suite or menu of activities which can be selected to achieve agreed aims

## **6. Demonstration of a clear understanding of the agricultural industry**

- a. Understanding of economic position and expected economic position
- b. Understanding of demographics of farm management
- c. Understanding of farm output, markets, and pricing
- d. Understanding of the factors which impact farm profitability
- e. Understanding of the political factors which are impacting farming
- f. An understanding of farming culture

## **7. Coordination of approach across all policy**

- a. Ensuring that the full range of policies and legislation are complimentary and work together to deliver the island's high-level aims.
- b. Avoidance of unintended consequences

## 13. Key practices from other jurisdictions

As part of the research for this report we investigated a range of other regions to understand the challenges which they are facing, their policy response and some relevant activities which have been executed in order to deliver against policy requirements. There is a very large amount of information available, and much of it is not particularly relevant to the Isle of Man. As a consequence, in the following sections we describe an overview of each country's main policy drivers, the key challenges that they face, and the highlight activity which we believe may be relevant to the Isle of Man. The countries which we have investigated are Northern Ireland, Ireland, Wales, Scotland, England, the Netherlands, New Zealand, Chile and Iceland.

### 13.1. Northern Ireland

#### 13.1.1. Vision for Agriculture and Agri-Food in Northern Ireland

Along with Wales, Northern Ireland has probably the most similar farming systems to those found on the Isle of Man. Northern Ireland has a range of activities which are potentially applicable to the Isle of Man and these are covered in the following sections.

Northern Ireland's key challenges are around highly intensive agriculture. In relation to its size, the country has large beef, sheep and dairy sectors, and extremely large poultry and pig sectors. The dairy, pork and poultry sectors are the cause of most concern, with high outputs of slurry which are causing air and water pollution.

Northern Ireland has been reconsidering agricultural and agri-food policy over the last two years, and are about to bring out one of the most radical changes in agricultural support and direction for many decades.

The main focus in Northern Ireland is on adapting to climate change, with Carbon as the main driver. However other aspects are also being considered, with soil health, the uptake of technology and the ongoing profitability of farms being highly important.

Unlike Scotland, Northern Ireland is determining how to best support farming, food production and the protection of the environment whilst moving away from payments to farmers without a return for society. This means that a large proportion of the current agricultural support will be focused on the delivery of environmental goods. The assembly recently passed a Climate Change bill which commits Northern Ireland to substantial reductions in GHG emissions and is likely to result in reduced numbers of livestock in the country without very significant changes to production methods. Northern Ireland is also positioning itself to be able to demonstrate environmental improvements which are made to key customers in the UK. It is recognised that high environmental performance is likely to become a requirement for entry of product into the UK retail market.

Northern Ireland has a very large number of projects and actions which are potentially

applicable to the Isle of Man.

### 13.1.2. Soil Nutrient Health Scheme

Northern Ireland have initiated a scheme to test and monitor the health of soils<sup>18</sup> in Northern Ireland over a four-year period.

This free service will provide participating farmers with:

- Detailed information on the nutrient status of their soils
- Runoff risk maps for nutrient loss to waterbodies for each field sampled
- Estimates of carbon stored in their soils and as above ground biomass for each farm
- Training on the interpretation of soil nutrient reports and generation of farm nutrient plans (via the training provided by CAFRE).

Soil sampling will be undertaken by AFBI's appointed sub-contractors with fully accredited results available within 4-6 weeks. When the farm has been sampled and the soil reports received, each farmer will be invited to participate in CAFRE training and nutrient management planning.

**We believe that the implementation of a similar scheme on the Isle of Man would bring large economic and biodiversity benefits**

### 13.1.3. LiDAR Analysis of land

Almost all land in Northern Ireland is undergoing LiDAR analysis, enabling above ground Carbon stores to be estimated. This technique has been successfully used in the catchment area projects (Upper Bann, Strule, Colebrook) and has now been rolled out to all land.

LiDAR analysis of the whole of the Isle of Man at a density of more than 11 points per square metre could enable the measurement of the above ground Carbon sequestration across the whole island, giving it the ability to move towards a net carbon position. Delivery of the actual LiDAR scanning is relatively inexpensive, but the interpretation of the data is more expensive and time consuming. However, the implementation of a LiDAR scanning programme would demonstrate the following:

1. That the island is engaged in determining the true Carbon cost of livestock production
2. That the island is engaged in setting baselines against which environmental improvements can be delivered
3. That the island is supporting its farmers by enabling the calculation of net carbon cost of production
4. That the island is supporting its farmers and improving the environment by identifying which areas would benefit from additional hedgerows, trees or different agricultural

18 [Soil Nutrient Health Scheme: Registration Opens for Zone 1 | Agri-Food and Biosciences Institute \(afbini.gov.uk\)](https://www.afbini.gov.uk/soil-nutrient-health-scheme-registration-opens-for-zone-1)

practices

5. That the island is helping the marketing of agricultural production with environmental messaging
6. That the island is encouraging tourism by improving environmental performance and eco-tourism

**We believe that the implementation of a similar scheme on the Isle of Man would enable above ground Carbon sequestration to be measures and areas of high-water flow to be identified on farmland, allowing more efficient utilisation of nutrients and less run-off from land.**

#### **13.1.4. AgreCalc Carbon measurement**

Northern Ireland is also paying to ensure that every farm undergoes a carbon audit via AgreCalc software. This will ensure that carbon performance is known for every farm and will enable policy to be designed to enable improvement.

**We believe that the implementation of a similar scheme on the Isle of Man would also deliver very significant benefit, and could form the basis for the provision of advice at individual farm level.**

#### **13.1.5. GrassCheck**

GrassCheck is a programme which monitors grass growth across Northern Ireland and provides advice to farmers to maximise its use. It reports likely grass growth in different regions, allowing farmers to implement effective grazing strategies. It has proved successful and has now been taken up by Scottish agriculture as well. The project is delivered by AgriSearch<sup>19</sup> and overseen by the Agri-Food and Biosciences Institute<sup>20</sup>.

#### **13.1.6. Beacon Farms**

The Beacon farms are an initiative operated by AgriSearch in Northern Ireland. There are 50 farms in the network, and they are intended to benchmark carbon sequestration on-farm, quantify the benefit of ecosystem services delivered by farmers, and encourage the development of innovative, resilient and sustainable farm systems. The Beacon farms could potentially provide guidance for the monitor farms on the Isle of Man.

**The Beacon farm network is focused on the demonstration of good environmental practice and ecosystem services delivery. A much smaller number of similar farms on the Isle of Man would address many of the Knowledge Exchange gaps around good environmental practice.**

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19 <https://www.agrisearch.org/>

20 <https://www.afbini.gov.uk/>

### 13.1.7. ArcZero

ARCZero is a European Innovation Partnership project made up of a co-operative of 7 farms in Northern Ireland. It seeks to measure and manage carbon flows at the individual farm level to empower farmers to make positive change towards carbon zero farming. The project is independently led by John Gilliland, alongside 7 commercial farms and industry partners including AgriSearch, Devenish, Queens University Belfast, and Birnie Consultancy.

ARCZero is focused on producing an accurate, individual, whole farm carbon balance sheets which are currently not available. It is measuring on-farm carbon stocks (soils, trees and hedges) combining them with the results of a whole Farm Lifecycle Analysis calculator. This will allow an accurate creation of a base-line greenhouse gas position. By assessing future management practices and identifying the most impactful behaviours the project intends to inform how farms across Northern Ireland could accelerate the move towards net carbon zero farming.

The AgReCalc analysis is being undertaken at both the beginning and the end of the project, to see if positive change has taken place and if so, by how much. These Lifecycle Analysis results will then be added to the carbon stock results to create a Net farm carbon balance for each farm.

**ArcZero is a good example of farmer-led research to address a key industry need. Similar practical development programmes could be established on the Isle of Man.** As part of this programme, farmers deliver much of the Knowledge Exchange

### 13.1.8. Food Futures

Food Futures is a tool developed in Northern Ireland for the gathering of information from farms and from a range of other data sources (government, farm assurance, supply companies) to enable the measurement of economic, environmental and social sustainability at farm level. The tool is active across approximately 200 farms in Northern Ireland and is moving towards full commercialisation.

Under the pillars of Economic, Environmental and Social and Ethical sustainability, simple, user friendly, scientifically robust metrics have been developed. These complex metrics are then prioritised and consolidated into a single indicator of sustainability. The integration of existing data flows with Northern Ireland Agri-Food industry and new novel world-leading outcomes of sustainability related projects are then feed into the development of the toolkit.

The toolkit not only quantifies sustainability in the broadest sense but will also help to:

- Support behavioural change to improve sustainability footprint
- Identify areas for knowledge exchange
- Identify knowledge gaps which may inform future Research and Development priorities for each supply chain, sector and the wider industry.

Food Futures is a tool which the Isle of Man could utilise for a number of purposes including

1. Data capture from farm and other sources
2. Benchmarking of KPIs for environmental, economic and social sustainability.
3. Incorporation of a Carbon tool
4. Comparison of farms to enable farmers to understand farm performance for each of the three sustainability areas
5. Provision of a menu of advice which could enable performance improvement.
6. Provision of consumer assurance around sustainability

**Food Futures is an example of a tool which could be used to demonstrate farm sustainability to consumer in addition to providing management advice to farmers.**

#### **13.1.9. College of Agriculture, Food and Rural Enterprise (CAFRE)**

Northern Ireland still has a government sponsored knowledge exchange system. Although some of the service delivery is variable, it is acknowledged that where strong advisors are operating, substantial positive changes have been made. This is most obvious in the pork supply chain in Northern Ireland, where the industry is recognised as being among the world's best, but is also the case for many beef, sheep and dairy farms as well.

One component which has proven successful is that the system allows the direct feeding of information from practitioners direct into government and government departments.

#### **13.1.10. Agri-Food and Biosciences Institute (AFBI)**

AFBI is Northern Ireland's highly respected agricultural and food research organisation. It is partially government funded but must also generate additional income from research grants and funding. In addition to research and development, AFBI delivers some knowledge exchange, but the primary vehicle for this in Northern Ireland is CAFRE.

As stated, AFBI is partially funded by the Department of Environment, Agriculture and Rural Affairs (DAERA), and for their contribution, AFBI deliver a range of research projects which either provide information on which policy decisions can be made, or which identify innovative methods and technologies which can help government address its key priorities.

#### **13.1.11. Farmer Led Research**

Farmer led research is becoming an increasing feature of the UK and Irish landscapes. Essentially this is where a farmer or group of farmers identifies a practical problem which is influencing their business, and design and deliver a project to test a solution. In some cases, research institutes are involved with the farmer group, in other cases this has not proven to be necessary.



## 13.2. Scotland

### 13.2.1. Scottish Vision for Agriculture

Scottish agriculture shares many of the challenges that are being faced by the Isle of Man. Their government recognises the need to transform support to farming and food production to move towards sustainable and regenerative agriculture. Scotland is developing an agricultural support regime from 2025 onwards. This support framework will focus on the delivery of high quality food production, climate mitigation and adaptation, and nature restoration. As with the Netherlands, Nature Positive thinking will influence future Scottish Policy. There will also be a focus on rural wellbeing. Scotland has a number of very remote and isolated communities and Scottish policy is being written to enable thriving rural and island communities.

Scotland is also investigating the effect of land management and land use, and there will be requirements for change in order to address the biodiversity challenge and climate change.

Scotland are operating against a number of key principles:

1. Ensuring that Scotland's people are able to live and work sustainably on our land
2. Scotland remains committed to supporting active farming and food production with direct payments
3. Scotland wants to integrate enhanced conditionality of at least half of all funding for farming and crofting by 2025 and as part of this conditionality, recipients of support will be expected to deliver against targeted outcomes for biodiversity gain and low emissions production.
4. Scotland is also developing policy, regulatory and support mechanisms which deliver emissions reductions in line with climate targets. Agricultural policy needs to contribute to wider government objectives and priorities, particularly in relation to Scotland's net zero ambitions
5. Nature positive also features within the intention for Scottish agricultural policy. Actions and mechanisms will be designed to support outcomes that restore nature, benefit natural capital and promote the natural economy. These mechanisms will be designed to be flexible enough to be adapted to accommodate emerging evidence, science, technology and tools.
6. Scotland will adopt an evidence-based, holistic, whole farm approach, including learning from and applying practice and experience from other nations.
7. Scotland also states that it wants to adopt a natural capital and 'just transition' approach to land use change
8. They have also stated their intention to ,where practicable, stay aligned with new EU measures and policy developments

As part of the practical delivery, Scottish policy is being established to continue to deliver high farming standards, and in particular to enhance animal health and welfare. Farmers will also be encouraged to contribute to the restoration of nature through enabling biodiversity improvement. Support will also be provided to encourage land use change that enables Scotland to reach climate and biodiversity goals [in line with the Just Transition Commission).

Interestingly, Scotland has also made the decision to encourage more farmers to produce food organically (which could potentially have unintended consequences), and less controversially, to accelerate adoption of approaches and measures which minimise, reduce and remove the use of agrochemical inputs and increase the use of non-chemical related actions.

Cooperative approaches will be encouraged to optimise collaboration and knowledge exchange across a range of production and environmental delivery areas, encouraging farmers to learn from one another. Skills building is highlighted as being highly important, with a particular focus on the development of skills needed to enable regenerative and sustainable farming processes to be implemented.

The need for business resilience is also recognised, where importance is attached to improvements in productivity and efficiency, as well as the implementation of new technology and practice. Scotland also aims to enable more local employment on the land, with increases in the number of women and young people who become involved in agriculture.

They finally state they also want to enable the creation of more localised supply chains which enhance producer value and cut food miles.

### **13.2.2. LIPs/APHIS/ScotEID**

The various regions of the UK have implemented relatively advanced cattle management systems which identify locations of cattle and record moves. The ability to interact with these systems would be a significant advantage to farmers on the island because it facilitates trade between the island and the UK. These systems also operate as databases, allowing animal performance to be estimated or measured and tracked, with the information being analysed and passed back to farm.

### **13.2.3. Quality Meat Scotland (QMS).**

Quality Meat Scotland is recognised as an extremely effective industry levy organisation which is focused on delivering value to red meat producers in Scotland. They are discussed here because they are notably proactive, often looking years ahead to anticipate future industry need and to design and implement plans to address the need. They focus on market development and the development of product attributes to meet market demand, protecting and advancing Scotland's price advantage in the red meat market.

They are an example to the Isle of Man because they are focused on the marketing of high-quality meat products, are actively planning to improve meat quality and to facilitate the

implementation of farm and factory practices which enable high quality meat to be produced and supplied.

The FMA in the Isle of Man carries some of the responsibilities of QMS, but is not as well resourced. However, there is potential to partner with other industries to bring some of the benefits that a larger organisation can deliver.

#### **13.2.4. Wildlife Management and Biodiversity**

In Scotland, the Government works closely with Nature Scot (Previously known as Scottish Natural Heritage), which acts as the lead advisory body on nature, wildlife management and landscape across Scotland. This organisation is currently working on species reintroduction and on reducing the impact of non-native species. Two groups have been set up in Scotland to address the impact of non-native species:

1. the Non-Native Species Action Group, to ensure effective policy co-ordination and practical implementation in Scotland
2. the Statutory Group on Non-Native Species, to oversee the use of new statutory powers and coordinate work between the statutory bodies with specific responsibilities for non-native species in Scotland

### **13.3. England**

#### **13.3.1. English Vision for Agriculture**

England has a range of policies which are being used to guide agriculture. From 2024, a range of new schemes will be introduced which will reward farmers for producing public goods. These schemes are still being designed in conjunction with industry specialists and representatives, but will represent a departure from the existing transitional schemes. The schemes will be heavily focused on the delivery of public goods.

The UK Government states that their vision for sustainable farming is for a “thriving agricultural sector where the majority of farms are profitable, productive and economically sustainable without subsidy through basic payments, and all are making a significant and widespread contribution to environmental, biodiversity and climate change goals”.

They are currently operating the Environmental Land Management National Pilot, which is available for up to 5,500 farmers who want to be involved in helping us to learn and co-design the full scheme.

Three schemes are being introduced in the near future: The Sustainable Farming Incentive, Local Nature Recovery and Landscape Recovery. They are focused on delivering against the government's goals which are set out in the 25 year environment plan and are also aimed at helping the Government to hit its commitment to Net Zero by 2050.

England has fewer programmes which appear to be applicable to the Isle of Man, but one which may be useful is SCOPs, a programme to reduce anthelmintic resistance. This

programme also works (under the title of COWS) for cattle.

### **13.3.2. NSA SCOPS programme<sup>21</sup>**

SCOPS, an industry led group, works in the interest of the UK sheep industry. The SCOPS group was created to develop sustainable strategies for parasite control of sheep, facilitate and oversee the deliver of recommendations to the industry and ensure that new research and development is used to improve the advice given to the sheep industry.

SCOPS is a multi-organisational group, including representatives from a wide range of industry organisations and understands that, left unchecked, anthelmintic resistance is one of the largest challenges to the future health and profitability of the sector.

The equivalent organisation for cattle is the Control of Worms Sustainability (COWS). On the Isle of Man, within the AES Scheme, worm counts and lab analysis is supported, with DEFA working with Vets to develop an anthelmintic scheme.

## **13.4. Wales**

### **13.4.1. Welsh Vision for Agriculture**

The Welsh Government is currently working through long-term development of methods of enabling the agricultural industry to adopt sustainable farming practice. A White Paper was published at the end of 2020, containing the main intentions for future legislation.

The legislation will contain measures to encourage sustainable food production, through supporting farming practice to address climate change, biodiversity and public health issues associated with emissions from agriculture.

The bill established a farm support scheme, the proposed Sustainable Farming Scheme which replaced the previous EU schemes. The focus is on a whole farm approach and is aimed at creating a farming sector which is both economically and environmentally sustainable.

The most interesting aspect of Welsh farm support is the Farming Connect programme.

### **13.4.2. Farming Connect**

Farming Connect is a government sponsored Knowledge Exchange programme in Wales (through the Rural Development Programme). It differs from CAFRE in Northern Ireland in that the Knowledge Exchange is managed by a private company which is contracted in, rather than through direct employment of advisors by a government owned organisation.

The Farming Connect programme was intended to support the development of a more professional, profitable and resilient land based sector and has largely delivered against its aims. It delivers an integrated programme of knowledge transfer, innovation and advisory services which are aimed at encouraging farmers to build skills, improve competitiveness and

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21 [On-farm Standards - Policy | National Sheep Association](#)

deliver higher sustainability and environmental performance.

The programme is integrated with other Welsh Government business support packages and activities including Business Wales and Resource Efficient Wales. The programme has built and developed links with innovative University research and development, and engages heavily with representative and levy bodies to focus its delivery on genuine industry challenge.

The priority areas include: Climate Change, Biodiversity, Forestry, Red Meat, Dairy, Grassland, Arable, Horticulture, Organic Production, Pigs and Poultry are focus areas of the programme (primarily because they are offering some Welsh farms the ability to diversify, intensify and enable another family member to be supported on relatively small farms). There are a number of cross cutting policy themes which are addressed as an integral part of the programme. These are: Tackling Poverty, Future Generations, The Natural Environment, Climate Change, Animal Health and Welfare, Plant Health, New Entrants and Women and Health and Safety are also integrated into every element of programme delivery.

Farming Connect has established and managed multiple farmer groups and has been effective in encouraging farmers to share information and work together to improve their farming performance.

**The principle of identifying key practical knowledge for the Agricultural sector and then contracting a specialist organisation to deliver against key requirements is sound and has been effective in Wales.**

## 13.5. New Zealand

### 13.5.1. New Zealand Vision for Agriculture

New Zealand farm and rural policies are very clear. They are well designed and laid out, and are very focused on practical development. Agriculture is critically important to New Zealand and represents about 5% of GDP. It also supports a range of other industries and also underpins the viability of many rural communities. New Zealand agriculture was heavily supported by direct financial payments until 1984 when this support was removed. Since then farms have not received direct support, and the main focus of agricultural policies in New Zealand on animal disease control and on the knowledge exchange to encourage the uptake of advanced practice. Payments are sometimes made in the case of natural disasters. The New Zealand Government also invests in projects and tools which can be used by the industry to deliver productivity improvement. New Zealand policy is focused on delivering returns from the market place and reducing any burden on the taxpayer.

New Zealand has concentrated its environmental legislation into one single act – the Resource Management Act. The purpose of this legislation is to “promote the sustainable management of natural and physical resources”. Three main outcomes are identified:

- sustaining the potential of natural and physical resources (excluding minerals) to meet

the reasonably foreseeable needs of future generations;

- safeguarding the life-supporting capacity of air, water, soil and ecosystems; and
- avoiding, remedying, or mitigating any adverse effects on the environment.

Water quality is a particular concern for New Zealand and a range of activities is taking place to resolve this issue.

New Zealand has a range of programmes which are of interest to the Isle of Man, but these are all focused around problem resolution or industry development.

### 13.5.2. Overseer

Overseer was developed 30 years ago to determine fertiliser application rates on pasture and has supported farmers to learn more about nutrient loss from their farms. The Ministry for Primary Industries, AgResearch, and the Fertiliser Association of New Zealand each hold one-third stake in the Overseer intellectual property. In 2016, they established Overseer Limited to manage, develop, and license Overseer for use.

**Overseer is a tool which is used to manage nutrient application. It is less applicable to the Isle of Man because of the very low level of this type of challenge, but it is indicative of how software applications can be used to shape farm performance.**

### 13.5.3. Primary Growth Programme

The Primary Growth Partnership (PGP) is a joint venture between government and industry, that invests in long-term innovation programmes to increase the market success of the primary industries. This scheme has sponsored a range of programmes. Some examples are given below.

- Omega Lamb: \$12.5 million
  - » The Omega Lamb programme takes a new approach to naturally breeding, raising, processing and marketing premium New Zealand lamb. An understanding of the top end of the market is guiding on-farm processing and marketing decisions.
- Passion2Profit: \$7.4 million Gov vs \$7.9 million PGP
  - » Aims to deliver additional \$56 million additional revenue
  - » Market research
  - » Technology sharing
- Other programmes which have been funded include
  - » [Caprine Innovations NZ](#)
  - » [Hāpi – Brewing Success](#)

- » [Mid-Rise Wood Construction](#)
- » [New Zealand Avocados Go Global](#)
- » [Omega Lamb](#)
- » Passion2Profit
- » [Resilient Dairy](#)
- » [W3: Wool Unleashed](#)
- » [Resilient Dairy](#)
- » [Sheep – Horizon Three](#)
- » [Te Mahi Ngahere i te Ao Hurihuri – Forestry Work in the Modern Age](#)

This programme has now been replaced by Sustainable Food and Fibres, but the principles of government:industry partnership remains in place and the programme is focused on problem resolution and/or enabling development to access new opportunities.

**The PGP and the SFF are examples of how government/industry/stakeholder research could be delivered to provide benefit across a region by addressing opportunities or challenge.**

#### **13.5.4. Sustainable Food and Fibres (SFF)**

- Pioneering to Precision: application of fertiliser in hill country
  - » [Pioneering to Precision: application of fertiliser in Hill Country | NZ Government \(mpi.govt.nz\)](#)
  - » The Pioneering to Precision programme sought to improve fertiliser practice on hill country farms through remote sensing of the nutrient status of the farms and precision application of fertiliser.
  - » [Economics of a variable rate fertiliser strategy on a Whanganui hill \(mpi.govt.nz\)](#)

#### **The New Zealand Sheep Industry Transformation Project (NZSTX)**

- This programme aimed to increase production of fit-for-market sheep, support finer wool production, and use product differentiation to improve grower returns.
  - » Expanded market opportunities for fine and mid-micron wool growers based on branded contracts. For example, New Zealand Merino and Reda Successori released a \$45 million contract for superfine merino wool, which is used in Allbirds wool shoes.
  - » Commercialisation of SILERE (a differentiated brand of merino meat) in a joint venture, initially with Silver Fern Farms and then Alliance Group.
  - » Established the Southern Cross nucleus breeding flock to develop a new fine-



wool sheep genotype (with improved carcass, reproduction and animal health). In early trials, Southern Cross lambs outperformed traditional strong wool breeds in grower returns.

### 13.5.5. FarmIQ

- The FarmIQ programme was proposed because of concerns:
  - » the supply chain was production-driven and inefficient
  - » farmers were removed from customers
  - » the supply chain had little ability to respond to changing consumer demands.
- FarmIQ looked for solutions to those problems.
  - » For the first time, information from throughout the value chain would be captured through the development of a farm management system.
  - » This would enable farmer suppliers to understand what customers want and to use new research-based knowledge to tailor their farming systems and supply to meet these requirements.
  - » Ultimately, FarmIQ aimed to deliver sustainable benefits to all sector participants: farmers, processors and marketers.
    - ◇ FarmIQ aimed to create a demand-driven, integrated value chain for red meat that could grow the sector by 50 percent by 2025. It had projects throughout the value chain, from on-farm production to processing and analysis of market requirements.
    - ◇ The red meat industry now has one of the most integrated farm management systems available through the FarmIQ software, which supports around 11% of the industry.
    - ◇ Genetic gains will increase productivity across the national sheep flock, maintain high eating quality, and help greenhouse gas research.
    - ◇ Over \$3.5 million in premiums paid back to farmers supplying Silver Fern farms through the BeefEQ system for the value-add range developed by the programme.
    - ◇ Programme partner Silver Fern Farms had premium value-add sales of \$68 million for the 12 months ending June 2017 following market development work through the programme.
    - ◇ FarmIQ software now supports more than 5.9 million stock units being run on 1.4 million hectares. 'IQ farms' have increased their productivity and profitability.

- ◊ FarmIQ software development capability helped run a pilot for the Sri Lankan Government.

**FarmIQ is an example of how software can drive change across an industry by enabling the collection and analysis of data.**

### 13.5.6. Mental wellbeing fund for rural communities

Within New Zealand there is a Complementary Services Fund which funds mental wellbeing support to local communities in rural areas. The fund is now closed, but a series of different projects were delivered

- Mates for Life project
  - » [Case study: Mates4Life initiative in the Hawke's Bay \(mpi.govt.nz\)](#)
- Rural Mothers Initiative
- [Case study: Rural mothers' initiative in the Bay of Plenty \(mpi.govt.nz\)](#)

### 13.5.7. Rural Community Hubs<sup>22</sup>

Although probably less applicable to the Isle of Man because of its compact size, new Zealand have focused on the development of Rural Community Hubs which rural communities to:

- reduce the isolation of rural communities
- increase connectedness within a rural community
- enhance community access to government and non-government services and support
- support initiatives that can respond to changing community needs over the long-term.

## 13.6. The Netherlands

### 13.6.1. Dutch Vision for Agriculture

After the United States, the Netherlands is the largest exporter of agricultural produce in the world, exporting over €65 billion of product annually<sup>23</sup>, 17% of Dutch exports. The Netherlands recognise that Farming, horticulture and fisheries are innovative sectors, and for many sectors Dutch agriculture is recognised as being amongst the highest performing in the world in terms of farm performance. Because the Netherlands is reasonably small, production increases have been driven through intensification. The heavy livestock loading has had substantial environmental impact and the Dutch government has had to take decisive steps to address the challenge.

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22 [Rural community hubs - factsheet \(mpi.govt.nz\)](#)

23 [Agriculture and horticulture | Agriculture | Government.nl](#)

The Dutch Government notes that food production contributes significantly to the prosperity of the country and that supply chains from producer to consumer function very efficiently at low costs. The Netherlands is noted for the connectedness between their industry, science, society and government. Wageningen is currently the top rated agricultural university in the world and provides significant scientific support to the industry. Vocational training is also widely taken up in the Netherlands.

The Dutch Government have stated that there is a need to focus on reducing the use of raw materials rather than constantly trying to reduce cost of production. They want to enable an agricultural model which is focused on circular principles to deliver production models which are both economically and environmentally sustainable. They believe that a mixed production system can underpin this, with raw materials flowing between different types of businesses to maximise resource use. A low or no waste model is seen as crucial.

Of relevance to the Isle of Man is the fact that they see animal production as fitting within this circular approach, being fed with grass, locally grown crops or crop residues. They do not rule out the use of national or international feed but expect that local options are preferentially sourced.

The Netherlands is also focused on the generation of healthy soil, minimising where possible the input of artificial fertilisers in favour of manures and products

The transition towards circular agriculture should bring entrepreneurs in farming, horticulture and fisheries a good income and the prospect of being able to pass their business on to the next generation. Consumers who know where their food comes from, and have respect for producer and product, can contribute to this process.

Markets are international and circular systems can extend across national borders. With regard to the import of raw materials from abroad, sustainability criteria for the most sensitive products have been established through a multi-stakeholder approach. In some cases, Dutch industry has entered into covenants stating that it will exclusively use these certified products.

The Dutch Government apply a series of questions to their policy. These are helpful and may act as a guide for the development of policy on the Isle of Man.

1. do they help to close cycles, to reduce emissions and to reduce biomass wastage throughout the food system?
2. do they strengthen the socio-economic position of the farmer in the supply chain?
3. do they contribute to the climate task for agriculture and land use?
4. do they benefit ecosystems, biodiversity and the natural value of the landscape?
5. has animal welfare been considered?
6. do they contribute to the recognition of the value of food and to strengthening the relationship between farmers and citizens?

7. do they strengthen the position of the Netherlands as a developer and exporter of integrated solutions for climate-smart and ecologically sustainable food systems?

In addition to these assessment criteria, food safety and product quality are always baseline conditions.

### **13.6.2. The Dutch Diamond**

The Netherlands operates a collaborative model which is being considered for implementation in other jurisdictions. This model is known as the 'Dutch Diamond' and is a structured method of ensuring that Government, Agriculture, Academia and Society interact to identify and agree challenges and opportunities and to enable a coordinated method of addressing them.

**We believe that there are significant learnings for the Isle of Man around the Dutch Diamond model and that a similar structure could be implemented to join up policies and promote joint working to deliver against island strategy.**

### **13.6.3. KPIs linked to industry services**

To address their environmental issues, the Netherlands has defined a range of KPIs which are used universally within farming in the country. The Netherlands has one of the most intense agricultural industries in the world, and the level of impact from farming activities was becoming a very great concern. Some radical changes have been made, with cuts to the number of animals in the dairy herd, and strict rules around the application of slurries and fertilisers.

In order to move the industry toward ongoing improvement, the Netherlands have introduced Key Performance Indicators for farms to measure and indicate their environmental performance. These KPIs are linked to services across the industry, including finance, processors, NGOs, Government and others. Milk producers receive a higher price for their milk from processors, pay less interest at the bank, pay less rent for 'nature land' from NGOs, less rent for land, lower insurance payments, and charges for green/blue services. The main KPIs are focused around the following farm inputs and outputs.

- Greenhouse gas emissions
- % of permanent grassland (>5 year)
- % protein produced by own operations
- Ammonia emissions
- Nitrogen soil surplus
- Nature & Landscape
- % herb-rich grassland
- Water quality and quantity

- Use of phosphates
- Use of pesticides

**The concept of a range of agreed KPIs is interesting and of relevance to the Isle of Man. They would not necessarily have to be the same as those in the Netherlands, but could follow similar principles, and government could interact with the industry to reward those who have the best performance through similar mechanisms to those in the Netherlands.**

#### **13.6.4. Agreed activity to deliver environmental improvement**

The Netherlands is also focusing on the development and implementation of measures which can positively impact regeneration and high environmental performance in agriculture. These measures include:

1. Manure management (such as applying solid manure instead of slurry) to improve soil structure and soil health;
2. Local feed production to eliminate overseas impact of feed production (primarily deforestation for soy production);
3. Primary focus on grass-based feeding due to higher soil organic content of grassland relative to arable (feed crop) land;
4. Diversification of the sward and more permanent grassland for improved above and below ground biodiversity as well as soil carbon storage;
5. Grazing to improve botanical composition and biodiversity of meadows, close nitrogen cycles and reduce ammonia emissions;
6. Use of lightweight machinery to reduce soil compaction;
7. Phased mowing to reduce direct impacts on ground-breeding birds and to improve survival chances of chicks;
8. Creating landscape elements such as marshland systems, dykes, ditch banks, living fences and tree alleys to provide habitat for species;
9. Extensification of the farm, i.e. reducing the number of livestock units per hectare of grassland.

**The principle of setting KPIs related to the uptake of key practices is sound and could be expanded within the Isle of Man.**

## **13.7. Ireland**

### **13.7.1. Irish Vision for Agriculture**

Agriculture and Agri-food are extremely important to the Irish Economy. As a result the sector is

well supported, both financially and through the provision of Knowledge Exchange and Advice. However, Ireland is facing challenges around farm profitability, support for rural communities and environmental problems as a result of agricultural activity. Ireland's agricultural policy is focused around the delivery of a number of strands, which have business, societal and environmental outputs. They are focused on delivery against the European Green Deal and the Farm to Fork and Biodiversity strategies. They see Pillar I and Pillar II interventions as critical for meeting environmental and climate ambition, and are focused on the deployment of a range of tools to enable delivery. Conditionality is an important component of the Irish agricultural strategy, with funding being dependent on specific activities. Ireland are, in some places, going beyond the European recommendations and have created a 'flagship scheme' – the Agri-environment and Climate Measure (AECM). This scheme will have a focus on results-based actions and on collective actions aimed at achieving landscape- and catchment-scale benefits. A minimum share of 4% of agricultural land will be required to be devoted to non-productive areas and features. Ireland is also developing policy to prevent land abandonment.

Like Scotland, Ireland are encouraging an increase in support for Organic Farming, and a new scheme with around €256 million of funding aims to increase the area under organic production from 2% to 7.5%. Suckler production is very important in Ireland and is the sector which is under most economic pressure. Ireland have created a Suckler Carbon Efficiency Programme (with funding of €260m) which is aimed at reducing absolute emissions by improving the environmental sustainability and genetic merit of the suckler herd.

Their On-Farm Investment Scheme is being changed to support investments that contribute to environmental, farm safety and animal health/welfare objectives. The Areas of Natural Constraints Scheme will continue to ensure that landscapes and habitats can be maintained through appropriate farmland management and the avoidance of land abandonment.

Ireland is also seeking to support coupled income support for protein crops to encourage an increase in the domestic production. Ireland has a heavy reliance on imported feedstuffs and want to ensure that this dependency is reduced.

The policies will also seek to protect and improve water quality, improve air quality through the reduction of air pollutants arising from agriculture, particularly ammonia and improve soil health

Ireland has also acknowledged the challenge of encouraging young people to enter farming and are attempting to develop mechanisms to increase the numbers of young farmers. These measures include income support, encouraging land mobility and facilitation of succession planning. The

Ireland has found that young farmers face difficulties accessing land and finance and are deterred from starting a career in agriculture due to these issues and due to lower incomes in agricultural than in other sectors of the economy. As a result, the future viability and sustainability of the agri-food sector is at risk and therefore, it is necessary to create an

attractive and sustainable work environment for young farmers where they are provided with the necessary supports to begin a career in farming.

Ireland has found that Direct Payments are a valuable source of income support for all farmers across the agri-food sector; but noted that these payments are of particular importance to farms situated in areas of natural and other specific constraints. In Ireland, 75% of Utilised Agricultural Area were situated in areas of natural constraint in 2019, the 7th highest of all EU-27 countries. Without direct support, farming in these areas may not be viable and this could lead to the abandonment of agricultural land which would damage the rural economy and the future viability of the agri-food sector. The SWOT further noted that High Nature Value farming occurs most frequently in areas that are mountainous, or in areas where natural constraints prevent intensification; and that grazing on these agricultural areas can be an important component of maintaining certain habitats. Rewarding farmers for wider environmental services, such as carbon sequestration and biodiversity on their farms is necessary to ensure the continued viability of these farms.

### **13.7.2. Teagasc Knowledge Exchange**

Teagasc is Ireland's highly respected agricultural and food research organisation. It is government funded but also receives international research funding. In addition to research and development, Teagasc also delivers large amounts of Knowledge Exchange. Again, Teagasc cannot be replicated on the Isle of Man, but they may be potential service providers.

### **13.7.3. Bord Bia**

Bord Bia is one of the best funded agricultural marketing organisations in the world. They are heavily involved in the marketing of the food industry across the world and are also responsible for the development of the food sector, from tiny start-ups though to large multi-site businesses.

### **13.7.4. ICBF (Ireland)**

The **Irish Cattle Breeding Federation** (ICBF) was formally set up in 1998, and is a non-profit organisation charged with providing cattle breeding information services to the Irish dairy and beef industries. ICBF exists to benefit our farmers, our agri-food industry and our wider communities through genetic gain. It is focused on:

- Identification, ancestry and quantitative data on those traits of importance for large numbers of animals in each generation.
- A genetic evaluation system to identify the genetically superior animals in each generation. An essential part of the genetic evaluation system is a scientific knowledge of the objectives and principles of cattle breeding.
- A breeding scheme design that ensures the required data is available, and that farmers use genetically superior animals in each generation.



- Well informed farmers and industry partners who willingly provide accurate data from their own farms and make full use of the information services provided by ICBF, and its service providing partners, in their breeding and farm management decisions.

**ICBF are providing services outside Ireland and could be a potential partner in any genetic improvement programme for the suckler herd on the Isle of Man.**

**13.7.5. RamCompare (New Zealand, Australia, England, Ireland)**

RamCompare project has been a five year pilot project designed to trial strategies for capturing commercial data collected from slaughter lambs in the UK sheep industry. Similar central progeny tests are taking place in Australia, New Zealand and Ireland. Essentially the project allows sheep breeders to compare the performance of different sires and to use these sires to drive genetic improvement on their farms.

During the first stage, a network of six commercial farms was developed. This network would use artificial insemination (AI) as well as single-sire mating to produce over 500 lambs per farm, per year. The sire of slaughter lambs is not usually known in the UK sheep industry, so this approach enabled sire information to be retained. Texel, Suffolk, Charollais, Hampshire Down and Meatline were tested across these flocks over two lambing seasons (2016 & 2017). Based on their estimated breeding values (EBVs) the rams were representative of the top 20% of their breed. The AI sires also had good genetic links to other pedigree flocks.

An entire data suite was collected from these lambs from birth to slaughter, which was then evaluated to see whether its inclusion in the rams' genetic evaluations improved the accuracy of genetic predictions and identified genetic differences between sires.

At the end of the first stage of the project in November 2017, a ranking based on commercially important traits was created for the tested rams.

**Ram compare has expanded to a number of countries and may be able to provide services to the Isle of Man around genetic improvement of the sheep flock.**

**13.8. Chile**

Chile's farming practices differ in many ways from production on the Isle of Man, but they do face some similar challenges. The Chilean dairy industry has identified the need to improve and prove sustainability and as a result have created a Sustainability Standard as a management tool<sup>24</sup>. The tool identifies practices and actions which can contribute positively across ten priority themes. These themes include:

- Soil health
- Animal welfare and health
- Water
- Greenhouse gas emissions and energy

24 [Chile's new sustainability standards and the impact on dairy - Dairy Global](#)

- Waste
- Biodiversity
- Economic management of the farm,
- Social environment and labour conditions
- Local communities
  
- Milk quality and safety

**The standard contains 156 actions which are classified into 4 level; basic, initial, intermediate and advanced. The scheme is set up so that all farms are able to access one of the certification levels. The wide range of potential actions means that dairy farmers can choose actions which are feasible for them. The actions taken by the farm are inspected and reported.**

**The concept of individual plans for individual farms is strong and potentially appropriate for the Isle of Man.**

### **13.9. Iceland**

Iceland has one of the most heavily supported agricultural sectors in the world. This is reflective of the challenges around food production in Iceland which are primarily related to the cold climate which makes the production of certain food types difficult and/or expensive. A large proportion of the food consumed in Iceland is imported, but the production of a certain amount of food within its national boundaries is important to Iceland as this increases food security for its population.

Iceland's agricultural policy focuses on improvement of food security, environmental sustainability and maintenance of farm income. Support consists mainly of price support sustained with border measures and quotas. Grant support makes up about 57% of gross farm receipts in Iceland. Iceland is setting out to achieve carbon neutrality and to promote innovation on-farm.

**Iceland maintains relatively high tariffs on certain product groups; meat, dairy, plants and flowers.**

### **13.10. Common Factors Across a Number of Countries**

#### **13.10.1. Joint working between farmers and pragmatic wildlife groups**

A wide number of the jurisdictions studied have established good working relationships between the farming industry and wildlife groups. Benefits are accruing from these type of relationships and there is strong potential to deliver this on the Isle of Man.

It became apparent from individual discussions with the Farmers Union and with Wildlife Groups on the Isle of Man that there is actually a lot of overlap and shared viewpoints between the future direction of agriculture. Areas of agreement are as follows:

1. All agree that the production of food is a key priority, and given world demand, an increased food supply would be beneficial.
2. All agree that agriculture has to reduce its impact on the environment, from both a climate change and biodiversity perspective
3. All agree that there are specific practices which are beneficial to both productivity and the environment. All agree that encouraging uptake of these practices is desirable
4. All agree that baseline measurements are crucial to the delivery of effective progress
5. All agree that the demonstration of effective environmental progress would have marketing benefits for the island, for both food and tourism
6. All agree that the island is unique and has the potential to be world leading in joined up management of agriculture and the environment.
7. All agree that reduced inputs are desirable if production can be maintained.

**We believe it is important for the Isle of Man government to facilitate and even drive collaborative working across the island, joining up organisations which would not normally meet or work together.**

### **13.11. Enabling Research Support**

One factor which is common to all of the higher profile farming nations is that a strong emphasis is placed on the importance of research to develop the industry through addressing key challenges and unlocking opportunities. Funding support is widely used to encourage specific practices, or to encourage Research and Development to address industry challenges. A number of states are highly effective in their use of such funding pots, including New Zealand, Australia, Ireland and, to a lesser degree the European Union.

**We believe it is important for government to jointly identify key research topics along with industry and stakeholders and to apply for funding to deliver work which will benefit the agriculture, agri-food and environmental sectors.**

## 14. Opportunities for Alternative Agriculture

In addition to the current challenges and opportunities for the island, it is important to look to the future and prepare for other agricultural sectors and activities which may emerge.

### 14.1. Energy Crops

There is the potential for the growth of energy crops on the island, but the economics of this are currently unclear, and the suitability of specific crops for some regions of the island is also unclear. A short study is currently being conducted by DEFA's Climate Change Team on the potential for energy crop growth in the Isle of Man

### 14.2. Production of protein crops

The island's livestock farms are highly dependent on the importation of feed. Protein ingredients are particularly lacking and it may make sense for the island to consider incentivising the production of protein crops, provided that appropriate types and varieties can be identified which are appropriate for the climate of the island. This is something already supported by the AES, but we would recommend a study into its effectiveness and whether additional policy or support levers need put into place.

The production of an increased amount of protein crops would also provide additional habitat which could benefit biodiversity.

### 14.3. Carbon farming and trading

Proving and improving Carbon performance on the island's farms could open up opportunities to market Carbon credits on international markets as carbon trading becomes more common. There is, however, a risk to agriculture in selling its credits to other industries.

### 14.4. Vertical farming

The production of high value horticultural products in climate-controlled conditions may have significant potential in the Isle of Man. There is an on-island need for additional vegetable and herb production and the placement of vertical production units on-farm may allow diversification and increased income for some farms, as well as the use of some by-products or manures from local farms. Although there are currently no vertical farms on the Isle of Man, we understand discussions are currently ongoing with a possible grower.

## 15. Preparation for a Connected Agriculture

Any consideration of agricultural strategy is incomplete without a consideration of the extensive changes which are likely over the next two decades. Most commentators acknowledge that we are on the cusp of a fourth agricultural revolution with the emergence of automation, robotisation, real time monitoring, precision agriculture.

This transformation will require changed skills for farm managers and the successful farmer of the future will be part practitioner, part data engineer. Training and licencing of drones will become necessary, as will skills required to maintain them.

### 15.1. Use of drones

Drones are likely to take over a considerable amount of fieldwork, including spraying, fertilising, monitoring of stock locations and stock welfare. GPS soil analysis will allow precision inputs and visual weed analysis will allow precision elimination of weeds.

The use of drones for some fieldwork will reduce soil compaction, will improve soil structure and will improve biodiversity.

### 15.2. Robotisation

Robotisation will eventually take over additional fieldwork and repetitive tasks around the farm. Robots will be smaller than conventional machinery and will be able to work 24/7 if required. Soil compaction will be reduced and precision inputs can be delivered.

### 15.3. Automated data collection

Data is one of the most important tools to enable improvement in agriculture. Data collection in less intensive industries has historically been low, but it is essential for this to change. Automated data collection is relatively near, and systems now exist which can weigh food in, monitor animal growth, animal health, grass growth, crop health and food output. These technologies are still, in some cases, expensive and not suitable for all farms, but the price of technology is continuing to reduce and will be within the reach of the majority of farms.

**The implementation of this type of technology will require a different skillset, and there is an emerging need for training on awareness of and installation and management of this type of automation, the interpretation of data and its application to effective business management. We understand that discussions are already happening with regard to this on the Island.**

## 16. Identifying Targets and Delivering Progress

### 16.1. Ideal targets

This report is focused on the identification of policies and activities which can deliver benefit to the inhabitants of the Isle of Man through activity which is predominantly focused within the agricultural and agri-food sectors. To enable identification of the policies and activities which are required, it is important to set out a vision which describes the 'ideal' outputs for the Isle of Man. Following consultation, we have identified the following. Some of these would require further definition, some require quantification of actual targets following consultation with the industry and other stakeholders.

#### 16.1.1. Agriculture

1. An agricultural sector which is economically sustainable
2. An agricultural sector which is consumer focused
3. An agricultural sector which recognises and meets social expectations
4. An agricultural sector which collects a wide range of data and which makes decisions based on this data
5. An agricultural sector which produces a range of products which are ideally suited to the growing conditions of the island
6. An agricultural sector which contributes strongly to food security of the island
7. An agricultural sector which is more advanced than any other in the world, with widescale uptake of best practice and the most appropriate technology
8. An agricultural sector which is helping to mitigate climate change
9. An agricultural sector which is actively improving biodiversity
10. An agricultural sector which actively supports vibrant rural communities through economic activity in local regions
11. An agricultural sector which creates conditions which attract tourists to the island
12. An agricultural sector which markets on the basis of high eating quality and high environmental performance
13. An agricultural sector which shares targets with other sectors and organisations and which works in conjunction with them to deliver against these targets
14. An agricultural sector which works with a range of other organisations including environmental organisations, wildlife organisations, tourism organisations, government etc. to ensure holistic delivery against key targets

**15.** An agricultural sector which is continuously attracting new entrants

**16.1.2. Agri-Food**

- 1.** An agri-food sector which is economically sustainable
- 2.** An agri-food sector which contributes strongly to food security of the Island
- 3.** An agri-food sector which is innovative and is constantly attempting product development or process improvement
- 4.** An agri-food sector which contributes positively to the balance of trade for the island
- 5.** An agri-food sector which provides a wide range of employment with good career development
- 6.** An agri-food sector which is not dependent on large amounts of government subsidy
- 7.** An agri-food sector which drives strong income for the agricultural sector on the island
- 8.** An agri-food sector which markets its food extremely well and drives high returns for high quality product
- 9.** An agri-food sector which markets well to local consumers and maximises local purchasing

**16.2. Government**

- 1.** A Government which is in touch with the sector and which has built a constructive relationship
- 2.** A Government which has shared targets with the industry
- 3.** A Government which carefully balances regulation, support and enforcement
- 4.** A Government which operates as far as possible by consensus
- 5.** A Government which provides the right support in the right areas
- 6.** A Government which takes the long term view and plans for the long-term good of the industry
- 7.** A Government which facilitates joint working between industry, stakeholders and government.



## 17. Enabling raised performance at farm level

### 17.1. Physical Performance of the Farm

High physical farm performance is usually associated with the following factors:

1. Focus on long-term profitability, not price
2. Appropriate Manager attitude
  - a. Farm Manager specifically setting aside time to make management decisions
  - b. A focus on continuous improvement
  - c. The ability to identify where farm is performing well and where it is underperforming
  - d. A willingness to change
  - e. A focus on attention to detail
  - f. An appropriate farm culture, focused on learning and improvement
3. Use of data and KPIs
  - a. Collection of extensive data which enables the farmer to manage performance
  - b. Management of the farm against selected KPIs
  - c. Setting of targets around selected KPIs
  - d. Benchmarking of farm against other similar farms
4. Use of specialist farm advisors to identify improvement potential on the farm
  - a. Nutritionist
  - b. Farm consultant
  - c. Animal health consultant
5. Effective and documented planning
  - a. Presence and use of a farm breeding plan, with specific and justified breeding targets
  - b. Presence and use of a farm health plan involving regular, proactive engagement with a veterinary surgeon
  - c. Presence and use of a diet plan for each different class of animal, with active monitoring of animal feed consumption
6. Farm being set up for ease of management
7. Knowledge gathering and training

- a. Attendance at farm walks, study tours, information meetings
  - b. Active training programme in place for farm staff, including Farm Manager
  - c. Training focused on business need
  - d. Involvement in business discussion groups
  - e. Involvement in study tours to observe practice and performance on other farms
- 8.** Focus on customer requirements
- a. Understanding appropriate potential markets for all farm production
  - b. Active focus on ensuring that produce meets customer requirements
  - c. Alteration of farm practice to ensure that produce meets customer requirements
- 9.** Focus on resource use efficiency
- a. GPS Soil analysis
  - b. Use of GPS linked precision application techniques to minimise inputs
  - c. Diet optimisation for animals
  - d. Input optimisation for land and animals
- 10.** Focus on continuous improvement
- a. Presence of overall farm development plans
  - b. Clear vision for farm

The above list is detailed and extensive, but our experience of the very best farms shows that it is possible to address all of the above (and more), to deliver an ultra-high performing unit. It is our opinion that any farming policy which is focused on improvement needs to encourage each of these factors. Some of these factors can be incentivised, but in reality what is needed (and sought) is an overall culture which encourages acceptance that the above factors are simply 'normal practice' and delivered as part of day to day farming. We have found that, when introduced, many of these factors are initially seen as difficult and time consuming but eventually become accepted practice and are worked into the day to day routine and deliver significant long-term benefits.

As part of a study we delivered in 2014-2015 which investigated farmer willingness to change, we found that there were several factors which heavily impacted the delivery of change. These are as follows:

- 1. Knowledge:** Often a Farm Manager may not be aware of the need to change, or if they are aware of the need to change, they may not know the changes to make. Where this is the case, change will not happen.

- 2. Vision:** The study found that, where farmers were able to visualise improvement on-farm, and the impact that it could have, they were more willing to implement change. This was often enabled by facilitating farm visits or site visits to enable farmers to view new practice on other farmers or research units. We found that Farm Managers who had worked on other farms, or in another job altogether, or who regularly travelled/visited other units, were more willing to implement changed practice.
- 3. Confidence:** The study found that confidence to implement change was a very key determinant of whether change was implemented. Where a Farm Manager or Farm Worker believed that they were able to implement a change, they were much more willing to do so. Skills training is an important way to address the confidence issues, as is the ability to see practice on other farms, and the availability of support to implement the change, if required.
- 4. Accountability:** The study found that farms which made regular use of an external advisor, or farms which had multiple workers with a genuine interest in farm performance, were often more successful in implementing change. This was primarily attributed to accountability, where those charged with implementing change were challenged if they failed to do so.
- 5. Data gathering:** The study found that the collection and use of data was strongly associated with the implementation of change. This was attributed to firstly, the ability identify challenge areas through data and secondly, the ability of the Farm Manager to measure the effect of previous changes which have been made, encouraging further change.

Other studies we have conducted have introduced other elements which influence the rate at which farmers take up advice. These include:

1. The trust the farmer has in an organisation which is providing farm advice
2. The quality, ability and practical experience of the advisor
3. The level of enforcement which supports the required activity
4. The type of enforcement which is in place and how it is communicated to farmers.
5. Clarity of the incentive associated with implementation of a particular solution

## 17.2. Environmental Performance of the Farm

High environmental performance at farm level is usually associated with the following factors:

1. Awareness of the environmental challenge
2. Measurement of the challenge and the specific effect of an individual farm
3. The availability of solutions to a particular challenge

#### 4. The ease of implementation of a particular solution

### 17.3. Practice Change to improve environmental performance

There are a wide range of actions which can potentially improve the environmental performance at farm level. Not all are applicable to every farm, but at least some of the actions are.

- Manure management (such as applying solid manure instead of slurry) to improve soil structure and soil health;
- Local feed production to eliminate overseas impact of feed production (primarily deforestation for soy production);
- Rapid growth of animals to slaughter weight, reducing the age of animals at slaughter. This is one of the most effective methods of reducing greenhouse gas intensity and overall output from livestock. It is impacted by the diet of the animal and the management of the animals;
- Focus on development of fertility (and even twinning) of suckler beef cows, which would substantially increase the output per cow, reducing emissions intensity of the beef produced;
- A primary focus on grass-based feeding due to higher soil organic content of grassland relative to arable (feed crop) land;
- Diversification of the sward and more permanent grassland for improved above- and below-ground biodiversity as well as soil carbon storage;
- Grazing to improve botanical composition and biodiversity of meadows, close nitrogen cycles and reduce ammonia emissions;
- Use of lightweight machinery to reduce soil compaction;
- Phased mowing to reduce direct impacts on ground-breeding birds and to improve survival chances of chicks;
- Creating landscape elements such as marshland systems, dykes, ditch banks, living fences and tree alleys to provide habitat for species;
- Extensification of the farm, i.e. reducing the number of livestock units per hectare of grassland.

### 17.4. Enforcement

Enforcement can be a significant challenge. There are multiple cases across the UK where there has been no enforcement and, as a result, no change in behaviour. On the other hand,

there are also multiple examples of heavy-handed enforcement which 'make an example' of farms which break environmental legislation. Evidence suggests that the most effective method is to implement a collaborative approach which works with farmers to address identified issues, but also carries the ability to prosecute after repeated non-conformances<sup>25</sup>.

In Scotland, SEPA have worked hard at developing good relationships with farmers and other businesses to address local targets in areas where specific targets have been identified. An example in Ayr has led to more than 90% of farms hitting compliance targets (a 50% reduction in non-compliance). 40 remaining farms are currently non-compliant and working with SEPA to hit targets. Farms which fail to comply will face monetary penalties.

Discussions in other areas revealed a resentment at what was considered 'heavy-handed' or dictatorial approaches which broadly encouraged farm businesses to conceal problems rather than get advice to deal with them. It was clear that some organisations charged with managing environmental pollution saw their role as policing rather than the provision of advice and support to move towards desired environmental outcomes. In these areas farmers asked not to be quoted, but it was very clear that the local Rivers Trust approaches were much preferred (and more effective than) those of the designated enforcement agencies.

## **17.5. Thinking Differently: Actions for the Isle of Man**

As already discussed, environmental and biodiversity performance is good on the island, although there are areas for improvement. We have considered a range of options which could bring benefits and deliver against the island's strategies.

### **17.5.1. Deliver a land management strategy**

The setting of new strategy and the joining of existing strategies will require some modification of existing thinking. We believe that an overview needs to be developed which can identify ideal practice on each land parcel across the island. This must firstly consider the production needs from the land and how efficient food production can be maximised, but should also consider how each land parcel could support high biodiversity and environmental practice. A clear plan will allow policy to be modified to encourage best practice and to pay for positive changes which are made.

The land management strategy would require:

- The setting of overall targets for the island, including
  - » Production, productivity and efficiency targets
  - » Economic targets, with a focus on increased economic performance

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25 [SEPA working with farmers to help clean up Ayr South bathing water | Media | Scottish Environment Protection Agency \(SEPA\)](#) 2021. Website publication

- » Environmental targets, with a focus on biodiversity improvement
- The use of scenario planning to determine the methods by which all targets could be achieved
  - » Use of industry experts and representative groups to produce a range of scenarios
  - » Prediction of outcomes using modelling
- Study of land management and usage on the island
  - » The use of land is not always efficient or most optimal. Identification of optimal use could direct future policy
  - » The setting of all-island targets would allow consideration of what areas of land could be used for each purpose.
- Policy could be established to encourage modification of land use (where necessary), focused on:
  - » Intensification of production in some areas
    - ◇ Implementation of best environmental practice for intensive farms
    - ◇ Focus on the production of highly efficient food products which provide an economic return for the farmer
  - » De-intensification of production in other areas
    - ◇ Focus on implementation of stronger, higher level environmental measures, including the potential of de-intensification
    - ◇ Focus on improving the overall environmental impact of the Isle of Man
    - ◇ Focus on creating landscapes which promote biodiversity and attract tourists.
  - » Creation of access areas where the local community can get involved in project work which promotes

A land management strategy would be the focus of a whole-island production biosphere which balanced the needs of a growing population, a growing requirement for food production, the need for reduced impact and the desire to drive social wellbeing. It would need to be delivered by consensus, and therefore is a long-term action.

### **17.5.2. Encouragement for young farmers to enter the industry**

We received feedback during the gathering of evidence for the report that land access is difficult for young people trying to enter farming, and that consideration should be given to steps which would encourage young, professionally qualified people to enter the industry. This

could take several forms:

1. The provision of start-up grants which are dependent on the qualification of those wanting to enter farming
2. The provision of preferential grant rates for farm operators under 40
3. The creation of a land bank which provides land for rental to new starts, or for young farmer wishing to expand their enterprise.

Regardless of the option chosen, the level of support should be dependent on the qualifications of each individual and on a commitment to the gathering and use of a specific level of data by the farm management, as well as the submission of physical and environmental performance figures for the whole farm.

### **17.5.3. Measure performance and environmental baselines**

This has been stated several times elsewhere in the report, but we reemphasise the importance of deriving baselines for the whole island for;

1. Physical and economic performance for all farms on the island
2. Carbon performance via a certified tool (possibly AgreCalc) for all farms on the island
3. Biodiversity performance on each farm

### **17.5.4. Pay well for existing habitat and areas of interest**

The island has a range of ASSIs and other areas of important habitat. The preservation of these is strongly in the interest of the Isle of Man, and we believe that the levels of payment for habitat need to increase. At present the feedback is that, although ASSIs are relatively easy to manage, the payment is very low and does not encourage farmers to want to reveal these type of areas on their farm.

### **17.5.5. Pay for improvements on agreed baselines**

Part of an all-island farm support programme could include:

1. The delivery of farm biodiversity, productivity and resource use efficiency assessments
2. The setting of individual farm targets along with the provision of advice
3. Two different levels of support; one for food focused farms, one for environmentally focused farms.

### **17.5.6. Deliver Knowledge Exchange Around Best Environmental Performance on Productive Farms**

Several producers and stakeholders identified a lack of provision of advice around best environment practice under a range of production systems and farm types. The absence of



environmental training on the Monitor farms was identified as a problem. Our discussions with producers revealed that there is a willingness to implement good environmental practice on farm, but that the practices, benefits, implementation methods and financial incentive needed to be clear.

It is essential that demonstration of best practice is available on the island, and demonstration farms should be set up and funded to enable this. It is essential that these farms are advanced, forward looking and well ahead of 90% of the islands producers but are delivering practices that are obtainable and practical, delivering increased productivity on farms.

## **17.6. Components of effective delivery**

Throughout our research for this report, we found that a menu of incentives, disincentives, assistance and tools were generally used to influence the direction of the agriculture and agri-food sectors. These are described below:

### **17.6.1. Knowledge and engagement**

Businesses and farms which we spoke to emphasised the need for policy makers to be knowledgeable about the sectors and aware of the factors which drive performance.

We found that the best policy tended to be driven where there was good connection between policy makers and the industry. Good engagement tended to enable clear understanding of targets for both policy makers and business, and enabled joint working towards those targets.

### **17.6.2. Incentivisation**

Influencing business often requires incentivisation. Incentives take different forms, and can include financial incentives, recognition, preferential treatment, or simply the realisation of improvements which have been made. The uptake of best environmental practice will be encouraged if it is profitable for the farm to do so, and feedback we received during this study suggested that

### **17.6.3. Enforcement**

Enforcement is seen as one of the tools which government has to help deliver against strategic priorities and delivery of agreed outcomes. However, a range of individuals (including farmers) on the island stated that enforcement was not as strong as it could be, and that farms in particular are not visited or assessed on even a semi-regular basis. Enforcement is important, but should also be proportional, enabling farms to resolve problems where possible rather than proceeding to sanctions or legal proceedings. Robust but fair enforcement encourages the uptake of good practice.

### **17.6.4. Peer support and/or pressure**

Farms are influenced by their peers. This can take the form of farmers communicating best

practice to other farmers, or alternatively peer pressure to conform to recognised industry practice. The creation of culture change in farming to accept best practice as normal will mean that underperforming farmers will feel pressure to improve.

## 17.7. Farm Support Payments

Up until 2009 all sectors received direct support including, milk, cereals, milling wheat, and pigs beef and sheep. This was phased out over 2.5 years, although pigs still receive £40/carcass ~ 47p/kg. This has mirrored traditional payments in the European Union. In Europe, substantial changes have been made to this policy, and in the UK in particular there is a very strong move away from direct production support towards payments for what would be termed 'public goods' – essentially good environmental practice, or practice which will have a direct benefit for the population. Public goods can include components such as the creation of habitat; improved resource use efficiency, reduction of emissions, improvement of air quality, improvement of water quality etc.

It is our view that the traditional production linked payments in agriculture have contributed to low efficiency in beef and sheep farming in the UK and Ireland, and this is also reflective of what has happened in the Isle of Man. When compared to intensive, data driven sectors such as pork, poultry and dairy, the beef and sheep sectors lag far behind in terms of genetic progress and implementation of advanced practice.

The main reason for this has been that the direct payments on each animal constitute the large majority of the profit that is made on each animal, and therefore farmers were encouraged to farm subsidy rather than improve on-farm practice.

This has essentially meant that while the data driven, unsupported sectors went on a productivity drive – measuring performance, selecting for desirable traits, optimising health, diet and housing conditions – the beef and sheep sectors have not advanced at all. This is by no means true for all beef and sheep farms, but is the case for the majority.

We would strongly advise against implementation of direct production linked payments in any form and we found no dissenting views on this across the island. There is no desire to return to production linked support payments, but there is a desire to ensure that support reaches grass roots farmers. We do believe that this is necessary, but must be focused on the delivery of outputs by farmers, either direct environmental activity or the take up of continuous professional development or the implementation of advanced practice which will enable the business to become more market competitive.

We also urge that the total amount of support for agriculture is not reduced, but is focused on the following:

1. Increasing productivity
  - a. Improving resource use efficiency

- b.** Precision agriculture
- 2.** Improving sustainability performance
  - a.** Implementation of changes which positively impact sustainability
  - b.** Measures to prevent environmental pollution or damage
- 3.** Enabling business development
  - a.** Implementation of automation
  - b.** Implementation of data collection and management systems
  - c.** Implementation of structures which improve business performance
  - d.** Diversification or value adding
- 4.** Skills training and personal development
  - a.** Business training for farmers, focused on the collection and used of data
  - b.** Training on best environmental practice
  - c.** Managing mental health

An increased focus on incentivisation of positive outcomes or behaviours will require careful examination of the current payments and may involve transfer of payments between pillars, such a reducing flat rate payment to incentivise productivity measures which in the longer term will enable farmers to improve the profitability of their production.

## 18. SWOT Analysis

### 18.1. Strengths

- The island is already displaying good environmental performance with good water quality, air quality and biodiversity
- The island's farmers have a good attitude to environmental development and are willing to make changes
- The quality of the island's food production is very strong and carries many attributes which are attractive to high end consumers
- The island has environmental organisations which are pragmatic and understand agriculture, and who are engaged with many individual farms and are in a position to help with development work
- The dairy sector is performing relatively well and the creamery is influencing farmers to improve their environmental performance

### 18.2. Weaknesses

- The Carbon, environmental and biodiversity assets on the island are not fully measured and cannot be demonstrated to potential customers
- Farms are not collecting and using enough data, and consequently most are not fully aware of their cost of production, how their performance compares to other similar farms, or the areas where they are over or underperforming
- Transport costs on and off the island are extremely high, which substantially increases input costs and erodes margin for finished product which is exported
- The island's policies are not necessarily joined up, meaning that operational activity has the potential to be delivered in silos, missing out on the benefits which a joined up approach would have
- The abattoir is not performing well and is not influencing farmers as well as it should

### 18.3. Opportunities

- Positioning of the island as a world-leading economically and environmentally sustainable agricultural producer
- Implementation of a method of measuring and demonstrating the good environmental performance of the island could bring significant marketing benefits
- Identification of key research which is required and the building of collaborative projects with academic partners could attract international funding and drive farm and

landscape benefits on the island.

- Creating baselines for all significant data around physical farm performance will enable strong and weak areas to be identified and will allow targeted Knowledge Exchange
- Implementation of automation within food businesses on the island could reduce dependence on labour, reduce costs and enable upskilling of existing jobs
- Identification of off-island premium niche markets for a combined offering of Isle of Man foods could enable price rises for IOM product
- Assistance with marketing of product to high paying niche markets
- Engagement between government, agri-food businesses, agriculture and selected wildlife organisations can help to drive business and environmental improvement and can form a basis on which premium product can be sold
- The development of a market for Carbon is something which could be used to generate additional income for the island's farmers

#### **18.4. Threats**

- Rising input costs are a threat to most businesses
- The lack of data collection at farm level is undermining businesses and slowing business improvement
- Lack of availability of skilled labour is impacting multiple businesses
- Climate, environmental and biodiversity action will become a barrier to entry for multiple
- Exceptionally high costs for transport off the island are a threat to all businesses because they substantially increase input costs and reduce returns
- Underperformance of some of the processing facilities on the island could quickly undermine sales prices, making farm production inviable

## 19. A Vision for the Isle of Man

The Isle of Man is unique. It is a relatively small island with a strong level of agricultural production. Its climate is stable and lends itself to both productive agriculture and a high level of biodiversity.

Internationally, there is growing demand for product which is both high quality and which minimises the impact on the environment, or in fact improves it. We believe that the island has an opportunity to reinvent itself as perhaps the world's leading agricultural producer in terms of productivity and environmental performance. The island status essentially provides a closed loop system which can be optimised through the development of an agricultural model which prioritises both highly productive agriculture (which provides highly nutritious food) and the output of multiple environmental goods. We believe that the Isle of Man could be a global leader.

The delivery of this will require the following:

1. Measurement of production and environmental baselines
2. The development of joined-up strategies which set clear targets which are complimentary. By this, we mean both strategies which are targeted at agriculture and other strategies (such as the Island Plan or the Environmental Strategy) which are not targeted specifically at agriculture, but are either impacted by agriculture or which impact it.
3. The acknowledgement that some areas of land may need to be 'de-intensified' while other areas of land will need to be intensified.
4. The production and utilisation of science which addresses challenges which are present on the island and may or may not be specific to the Isle of Man.
5. The creation of a method of measuring economic, social and environmental performance of the Isle of Man agricultural sector and reporting this to the market
6. The creation of a system of 'sustainability' assurance
7. The sourcing of government and international funding to deliver a 'whole-island' project to transform the production systems
  - a. EU Framework Programmes (which can sometimes include partners outside the EU if there is a significant benefit to the EU)
  - b. Trust funding
  - c. NGO funding
8. The identification of high paying global markets which will enable Isle of Man produce to sell their products at a higher price point.

9. The development of a long term strategy which all sectors (agriculture, environmental, social and government) can buy into and drive.

We believe that the repositioning of the Isle of Man as a global leader in agriculture and the environment will bring multiple benefits:

1. Long term sustainability in both farming and the environment
2. Enhancement of the reputation of the Isle of Man, from an agri-food perspective and a tourism perspective
3. The driving of higher sales prices for Isle of Man food.
4. The attraction of additional tourists to the Isle of Man.
5. Positioning of the Isle of Man as a scientific testbed which offers the opportunity to directly measure the effects of changes in a closed loop system.
6. The attraction of large scale research and development funding from trusts and foundations around the world who wish to sponsor research of this type

The delivery of this vision will require the joining up of a range of strategies and the setting of new targets. It will require input from those with responsibility for agriculture, the environment, tourism, marketing and the economy.



## 20. Conclusions

It is clear that the high level island strategies and policies are fit for purpose and radical change is not required. Those that we engaged with during the consultation process were also in broadly in agreement with this.

At a more practical level a number of areas for development emerged. These are as follows;

There is **agreement that direct production support for farmers is counterproductive and should not be considered.**

It was also recognised that **support to active farmers is necessary for three main reasons.** Firstly the island location is a disadvantage in terms of cost of inputs, as well as the cost of exporting. Secondly, agricultural production on the island brings a host of benefits and supports around £100 million of economic activity, and thirdly because agriculture is at a point where very significant change is required to deliver environmental goods as well as food production, and this requires support in the form of advice and finance to deliver the required change.

There is a **need to support the island's farms and businesses to develop their businesses to ensure ongoing profitability** and in addition, to ensure that there is an adequate volume of production available to support food manufacturing and processing on the island.

Even more significantly there is the **need to support farmers to implement good environmental practice.** Many farms are already doing this, but there is a widely recognised need to substantially increase this to bring both biodiversity and climate change benefits. There was general agreement from farmers and wildlife groups that consideration should be given to providing support to farmers for good practice which already exists as well as paying to deliver improvements. Any such reward system would probably have two tiers, one which encouraged the maintenance of existing features and practice and a second tier which supported farmers to make beneficial change.

There are **some environmental practices which are also economically positive for farms** (efficiency improvements, optimum use of genetics etc.) and, in general, these do not need to be supported (unless pump-priming is necessary to initiate uptake). There are some other practices (such as soil testing) which bring significant long-term benefits to both farming and the island. **Consideration should be given to supporting an island-wide geolocated soil testing scheme** which would accelerate the uptake of lower-input, highly productive (efficient) grass based agriculture. We also believe that consideration should be given to the use of LiDAR analysis of the island to determine above ground carbon capture. This would allow the accurate determination of net carbon cost of production and would also have the benefit of identifying areas of high water flow on land. This information can be used to guide nutrient application to ensure that at any nutrient applied is not washed off, creating wastage and negatively affecting air quality. There are other environmental improvement measures which are simply a cost to the farm, but deliver good environmental improvement (such as

hedge establishment). These type of improvements would need to be supported to encourage uptake.

We believe that the **Isle of Man should consider making agri-environment development a profit centre for farm businesses**. This would fulfil the need to support farms on the Island, whilst also accelerating progress towards the environmental aims of the island. We also believe that consideration should be given to including existing features or practices within the agri-environment schemes to reflect what is already on farm and encourage producers to keep and enhance these existing features.

We also believe that is **necessary for the island to implement tools which enable the ongoing measurement of farm environmental performance as well as physical & economic performance**. It is crucial that this assessment includes a carbon calculator which is standardised across the island. Carbon is not the only factor involved in climate change, but it is a good guideline.

There is a need to continue to **encourage culture change amongst the island's farmers to recognise that the production of food and the production of environmental goods are equally valuable outputs from farming**. In truth, we believe that Isle of Man farmers are more environmentally aware than most and generally recognise the importance of protecting the environment. The island has a very large advantage over most agricultural production systems in that it has very low levels of intensive production in relation to the overall land area which is farmed.

We were impressed at the pragmatic and results focused attitude of Manx Wildlife Trust, where there was the recognition that a lot of farmers are already delivering a range of environmental benefits. **There was agreement between many farmers (non NFU members), the Manx NFU and the Manx Wildlife Trust that there is real potential to accelerate the island past all international competition through effective planning and delivery**. We recognise that there is concern amongst some of the farming community at close involvement with a wildlife trust, and that there are equal concerns from some grass roots members of the Trust at close involvement with the agricultural sector. However, we believe that joint working is essential and that there is value in having shared aims and activity. It is important however that this is a consensual approach and that the views of the farming industry are always taken into account. We strongly believe that there can be potential marketing advantages as well as environmental benefits from this type of coalition.

We also observed that **there is a very considerable overlap between what Manx farmers and Manx Wildlife Trust want to achieve** with all agreeing on the vision of an island which is world leading from an environmental perspective, but contains highly productive farms which are selling product which attracts large premiums because of its environmental performance. There does appear to be the potential to greatly increase joint working between the farming sector and the wildlife sector, but the terms of engagement would need to be clearly defined first. We would encourage Government to explore methods of enabling this joint working as it

has the potential to deliver very large benefits.

We do believe that **it is important for every farm on the island to become involved in continuous professional development activity**, focused on the development of productivity and the implementation of best environmental practice.

**Culture change** is also required around the factors which define a good farmer. In common with many agricultural sectors, many of the farms on the island appear to collect very low levels of data, and practice can be quite traditional. There are many advanced farms on the island which are using highly advanced (and specifically targeted) practice and this needs to be recognised as the gold standard.

Seeing is believing: **Study programmes for farmers** (particularly young farmers) to visit advanced farms across the UK, Ireland and mainland Europe could pay dividends. Living on an island makes it difficult for farmers to travel to gain practical knowledge and experience, and, as many people are visual learners, the inability to see good practice restricts its uptake.

The island has the potential to be world leading in terms of producing food within an environmentally sustainable framework. This does require the consideration of how all the land is used on the island, possibly entailing the **creation of a land management strategy** which reviews the optimal use of land across the island and shapes future policy.

We believe that **the island should consider focusing agri-environment schemes on outcomes rather than inputs**. These schemes would require that each farm created an individual biodiversity development plan which includes components which are most suited to that farm. The financial support would be paid partially on the basis of the work which would be carried out, and partially on the basis of the results of the action.

**Measurement is critically important** and we believe that there is a real need to increase this. Baselines are necessary on the island, including full soil maps, full water maps, a biodiversity map, as well as effective assessment of physical and economic farm performance. In addition, ongoing measurement is necessary to indicate progress (or the lack of it), and to identify the measures which are making most impact.

**Finding and targeting specific and premium markets with a range of products from the island is important**. We believe that the basis of the marketing has to be focused on the environmental attributes of the island (quality and health are also important). The island is too small to target large international markets and thus needs to focus on internal sales and on very specialist niche markets such as in London or the Channel Islands. Focused marketing to these specific areas could drive value back to farmers and agri-food producers.

**Transport costs are a key challenge to all industry on the island**. The issue of ferry costs was repeatedly raised by multiple organisations, and it was highlighted as a real trade barrier. Whether this is resolvable is not the focus of this report, but we note that the high costs raise the costs of agricultural inputs, the costs of inputs for food manufacturers, the costs of food to

the consumer, and the cost of exporting of food and other goods which are produced on the island.

**The Island could attract significant research funds due to its enclosed ecosystem and farming systems.** As identified in this report, there is a very limited amount of scientific research occurring on the Isle of Man. Large sums of international funding are available to fund specific research around the environment, biodiversity and their interaction with farming systems. It is possible that large scale projects could be set up on the island which measure baselines and identify methods of enabling highly productive farming which is nature positive and beneficial to the environment.

## 21. Final Recommendations

### Recommendation 1: Join up strategies and ensure joint working

Ensure that all Island strategies relating to land use, agriculture, food, business development and the environment are joined up and complementary to each other. Initiate formal cross agency and departmental meetings to facilitate delivery.

### Recommendation 2: Develop and publish clear targets

Ensure that there are clear and specific targets for;

- Agricultural productivity
  - » Food production output
  - » Overall farm inputs
  - » Public good
- Environmental outcomes
  - » Biodiversity
  - » Net Carbon Balance
  - » Pesticide use
  - » Fertiliser use
  - » Water pollution
  - » Air pollution
  - » GHG emissions
  - » Emissions intensity

### 21.1. Recommendation 3: Establish baselines for farm performance, including productivity and environmental performance

Without initial and ongoing measurement, progress is likely to be slow. We believe that it is vital for government to implement practices which enable the establishment of baselines for farm performance, including:

- Profitability or economic performance
- Productivity and resource use efficiency
- Biodiversity performance

- Environmental performance
- Influence on climate change

As discussed in the report, the monitoring of the return on investment is challenging, in part because of the lack of performance data collected on the island. We believe that it would be a significant step forwards if an additional level of conditionality could be introduced around the provision of grant support, specifically the requirement to collect and submit full performance data for each farm on at least a bi-annual basis. This would include full inputs and outputs for each farm, allowing calculation of key performance indicators on each farm, including growth rates, cost per kg or tonne, fertiliser and sprays, fuel usage, power usage etc. This would provide a central database which could inform policy, but which could also be used to provide specific advice and guidance to each farm (through a variety of routes).

We also believe that it is important to define standard KPIs against which the industry should be targeted and measured. These should comprise of a small number of clear KPIs which are linked to support and other industry services in a similar manner to that which happens in the Netherlands.

## **21.2. Recommendation 4: Deliver productivity and environmental advice in one package**

Link productivity and environmental within Knowledge Exchange programmes so that both are presented together :

- Building knowledge of best environmental practice
- Building knowledge of practices which improve profitability
- Build knowledge of systems which work effectively to deliver high economic and environmental performance

## **21.3. Deliver a package which can prove and improve the overall performance of the Island**

We believe that the Isle of Man should give consideration to the following actions:

- Whole island soil analysis, including carbon content of soil
- Analysis of whole island LiDAR scans to enable determination of above ground Carbon sequestration and to show overland water flows, allowing farmers to avoid nutrient application on areas of high water flow
- Assessment of whole farm sustainability via a carbon and other software tools (economic, social and environmental) for demonstration to customers and stakeholders. Ideally this software tool will enable direct feedback to farmers about

steps which can improve various areas of farm performance

#### **21.4. Recommendation 5: Position the Island's agriculture as globally leading and build marketing on the back of this**

The Isle of Man is in a unique position and may be able to quickly monetise high environmental performance. Efforts should be made to ensure that farms and agri-food can benefit.

#### **21.5. Recommendation 6: Attract international research and research funding**

Position Isle of Man agriculture and food production as ideal testbeds for research, attracting significant amounts of research funding and delivering research which can develop the industry

#### **21.6. Recommendation 7: Where possible move towards the adoption of nature positive agriculture**

Nature positive farming can be defined as agricultural practices which give more back to the land than they take out. Nature positive farming incorporates both animal and plant based agriculture, in conjunction with a range of different practices which improve resilience, mitigate the effects of climate change and increase biodiversity. Nature positive farming demands a whole farm approach and the combination of a range of techniques and monitoring practices.

#### **21.7. Recommendation 8: In assessing farm climate performance consider Global Warming Potential as well as straight carbon assessment, and include sequestration in any calculation**

#### **21.8. Recommendation 9: Build Strategic alliances with partners in other jurisdictions**

Our study of practice in other jurisdictions showed that there are a wide range of services, tools and project which would be beneficial for the Isle of Man. In most cases there is no need to replicate the work and it may be possible to join projects or contract other organisations to provide services to the industry on the island.

#### **21.9. Consider the implementation of agri-business support via video conferencing – enable business networking with other businesses across the British Isles**

Management of a food business on the island can at times be quite isolating. There is only one of each type of business on the island and therefore comparison is difficult. The facilitation of business to business networking with non-competing but similar businesses in the UK and Ireland may identify many business practices which could bring benefit on the island.



### **21.10. Signpost and highlight training which can bring benefit to agricultural and agri-food business**

Often, even where training is available it can be hard to find, especially for those who are not technologically proficient. A signpost programme to highlight business training would benefit many across the agri-food sector.

## 22. Making it happen

In summary, almost all those consulted agreed that the general strategies, policies, and schemes on the Isle of Man are broadly correct, but many emphasised the need for urgent action, stating that they felt that progress and uptake was slow.

The strategies are clear, but there is an urgency to ensuring that practical support schemes are optimised to enable the agricultural and agri-food sectors to address key targets. The most urgent need across the whole island is to obtain baseline information against which targets can be set and progress measured. Ongoing measurement will allow the effectiveness of policy to be determined, and modifications made where the impact is either not as great or as fast as would be expected.

With known baselines a range of tools and levers can be implemented to deliver whole island targets, rather than just those for individual sectors.

## 23. Consultation List

Approximately 130 people have fed information into this report. The list of organisations consulted is listed below, but multiple people have been involved from several of these organisations.

- 90+ Isle of Man Farmers
- Agricultural Marketing Association
- DEFA Agriculture and Lands Director
- DEFA Interim Chief Executive
- Business Isle of Man
- Climate Change Transformation Team
- Visit Isle of Man
- Environmental Protection Team, DEFA
- Farming and Wildlife Advisory Group
- Fatstock Marketing Association
- Isle of Man Creameries
- Isle of Man Flockmasters
- Isle of Man Meats
- Manx Farmers Alliance
- Manx Farmers Union
- Manx Wildlife Trust
- Minister for DEFA
- Former agricultural minister
- Robinsons Fresh Fruit
- Shoprite
- Monitor farm
- Pig farmer
- Manstock
- Creer Contracting
- 3 IOM food businesses who wished to remain anonymous

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