Arsyllfa **Wledig** Cymru
Wales **Rural** Observatory

A SURVEY OF FARMING HOUSEHOLDS IN WALES

July 2010

Prifysgol Aberystwyth University

Cardiff University
Prifysgol Caerdydd

Cronfa Amaethyddol Ewrop ar gyfer Datblygu Gwledig: Ewrop yn Buddsoddi mewn Ardaloedd Gwledig
The European Agricultural Fund for Rural Development: Europe Investing in Rural Areas

Llywodraeth Cynulliad Cymru
Welsh Assembly Government

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EXECUTIVE SUMMARY

This Executive Summary provides an overview of results from a survey of farming households in Wales, conducted by the Wales Rural Observatory [WRO] during February 2010.

KEY FINDINGS

41% had non-farm sources of income

38% had annual turnover of less than £25,000

14% considered the SFP to be a principal source of their current income

23% perceived SFP to be their future principal income source

90% did not employ non-family members

50% had diversified in some way

30% were likely to undertake more diversified activities over the next five years

10% operated some form of organic enterprise

42% of the total sample was 'highly likely' or 'likely' to enrol in Glastir – overall 16% were not aware of Glastir

If SFP was reduced: 27% were 'highly likely' or 'likely' to leave farming

74% of farms were family owned

If, after 2013, CAP subsidy payments were reduced, 68% of farming households were 'vulnerable'

In the event of a continuing cost/price squeeze, over the next five years, 75% of farming households were 'vulnerable'

Farming households with above average levels of diversification were more 'resilient'

Farming households with above average levels of multifunctionality were more 'resilient'

Farming households with above average levels of entrepreneurship were more 'resilient'

The Research
By a team at Cardiff University for the Wales Rural Observatory (WRO)

BACKGROUND

There is a perceived evidence gap concerning farming in Wales. Other than the Farm Business Survey [FBS] and Farmers Voice, neither of which has an exclusive focus on Wales, there is little evidence concerning the state of farm business activities in Wales.

In order to fill this evidence gap the Welsh Assembly Government [WAG] commissioned the Wales Rural Observatory [WRO] to conduct a survey of farming households in Wales. The survey garnered information and provided comprehensive data on both farm practices and farmers' attitudes concerning a range of topical issues. In addition, the survey constitutes a database on farming in Wales that connects with both completed and forthcoming WRO work, and provides evidence that allows WAG to monitor the impact of its policies and inform the implementation of the Rural Development Plan [RDP].

METHODOLOGY

The project aims agreed with WAG were to:

1) Identify household income streams by assessing farming household total income from farming and non farming activities;
2) Bring out the extent of diversification and multiple jobs;
3) Outline possible responses to CAP reform, and explore behavioural attitudes;
4) Establish household resilience and vulnerability with regard to CAP reform;
5) Provide evidence to allow WAG to monitor the impact of its policies and inform the implementation of the Rural Development Plan.

It was decided that a telephone survey, conducted by a contractor, would be more cost effective and carried more certainty of achieving the desired number of responses – the target sample was 1,000 farming households. Quotations were sought from three contractors and the contract was awarded to Opinion Research Services [ORS].

The target sample of 1,000 farming households was constructed from a sample of 10,000 released by WAG. It was stratified by farm size, using the standard EU economic size groups.

For the telephone interviews a 20 minute questionnaire was prepared, designed to elicit quantitative data on a range of farming-related and household issues. In addition, there were two open-ended, qualitative questions:

If, after 2013, policy changes result in reduced payments to farmers or require changes to farming practices, such as increased environmental responsibilities, what would you do?

If input costs continue to rise but farm gate prices fall, what will you do over the next five years?

Interviewers recorded verbatim responses to the two open-ended, qualitative questions.

ORS conducted the telephone survey between 29th January 2010 and 3rd March 2010. Importantly, interviewers asked to speak with the principal decision-maker of the farming household. In the event, 1,009 telephone interviews were completed. This represented a response rate of 12.64%.

METHODS OF ANALYSIS

The report contains four sections of analysis. Section 5, which addresses project Aim 1 and Aim 2, consists of descriptive statistics from the questionnaire data. These are cross-tabulated with key variables such as farm type and size. Section 6, which addresses Aim 3, consists of a qualitative analysis of the responses to the two open-ended questions. To address Aim 4, Section 7 consists of a typological analysis using three indices:

Diversification - the development of farm-based, non-agricultural activities to help sustain the farm holding.

Multifunctionality – the degree to which farms contribute, beyond their primary function of producing food and fibre, to environmental benefits.

Entrepreneurship – the ability, skills and mindset of farmers in terms of assembling resources and innovations to find new ways of entering different markets.

FINDINGS

The findings are grouped under each of the Project Aims. As, taken together, the qualitative, typological and integrated analyses address Aim 3 and Aim 4, the findings for these aims are combined under one heading.

Project Aim 1: Household Income Streams

In terms of income sources, 50% of farming households perceived that the market place was their principal source of income. The Single Farm Payment [SFP] was perceived to provide the largest proportion of household income for 14% of the sample. There may be a perception issue here. Data from the 2009 FBS suggest far higher levels of SFP dependency. It might have been that some interviewees tended to accept SFP as a given, and disregarded it as a component of total household income. Moreover, when asked what they would do if SFP was to be reduced, 27% were likely or highly likely to leave farming.

Off-farm employment was the perceived principal income source for 15% of the sample and 41% had income from sources not connected to the farm or agriculture. Payments from agri-environmental schemes were perceived to be the principal income source by 2%, and 7% considered diversification to be their principal income source.

Project Aim 2: The extent of diversification and multiple jobs

Overall, 50% of farming households surveyed were operating some form of diversified activity. Although 30% stated that they were likely or very likely to expand their diversification over the next five years, they identified a number of potential obstructions to their diversification plans. These included inadequate provision of information, advice and support; low financial returns; problems with the capacity of farm personnel and their training; legislation and regulations; and planning permission.

In total, 10% of the total farming households produced either organic crops or livestock, or both to some degree.

Project Aim 3 and Project Aim 4:

Potential responses to CAP reform and behavioural attitudes

Resilience and Vulnerability with regard to CAP reform

The qualitative analysis reveals that if, after 2013, policy changes result in reduced payments to farmers or require changes to farming practices, 28% would carry on business as usual; 22% would not know what to do; 10% would sell up and leave farming; and the remaining 40% would pursue various strategies of diversification, economies, agri-environmental schemes, alternative enterprises and retirement.

Some interviewees perceived that the place of farmers was uncertain in a changing world, particularly in terms of the competing claims of food production and environmental protection. While some argued that they would be compelled to leave farming, many interviewees felt tied to their land by birth, place and culture, and wanted to pass the farm on to succeeding generations. But many considered that this would not be possible.

The findings of the typological analysis show that of the three main types of farm, dairy farms were the least likely to diversify, with sheep farms slightly less likely to diversify, and that beef farms recorded the highest scores for diversification.

Scores on the index of multifunctionality were intertwined with entry to the agri-environmental schemes. Here, 84% of the survey sample was aware of Glastir, the new agri-environmental scheme, and 50% of those aware of Glastir were likely to join the scheme (42% overall). However, although 60% of interviewees were or had been in an agri-environmental scheme, some barriers and obstacles to joining were cited. These included regulations and red tape; conflicts with the core farming business; administration costs; low financial returns; and inadequate advice and support. Of the three main farm types, sheep recorded the highest scores in terms of multifunctionality, with 67% above the average on the index. Beef farms recorded the second highest results, with 59% above the average.

The leading performers on the entrepreneurship index were the miscellaneous types of farms at 67% above average, and dairy farms at 65%. Dairy farms may be seen to occupy a particular position as 'specialist entrepreneurs'. That is, they are locked in to particular markets, and entrepreneurial dairy farmers seek ways to maximise economic returns from these markets. The entrepreneurship index revealed a definite gradient from larger farmers with high entrepreneurial scores down to small farms with low scores. There were issues concerning the preparedness of some farming households across Wales to be entrepreneurial. For example, in response to a direct question about their intentions only small proportions of the survey sample would change their business practices or start new ventures. In addition, only 19% had a business plan.

Overall, 68% of farming households were vulnerable in terms of potential CAP reform and 75% were vulnerable to a continuing cost/price squeeze over the next five years.

Project Aim 5: Evidence to allow WAG to monitor the impact of its policies and inform the implementation of the Rural Development Plan

From the analysis, three, non-mutually exclusive, overlapping clusters of farming households in Wales emerged. While members of all three clusters recognized the tensions and contradictions between food production, environmental protection and conservation, and rural development, some are better positioned to resolve these tensions and contradictions.

First, there is a cluster termed 'Strugglers' that tends to struggle to adapt to policy changes and the greater emphasis on the environment and rural development. In the event of reduced payments, increased environmental responsibility or adverse market conditions, members of this cluster may well retire early or leave farming, either by selling the farm or filing for bankruptcy. For example, 14% said they would leave farming if subsidy payments were reduced or they were required to increase their environmental responsibilities; and 27% suggested that they would retire, sell-up or go bankrupt faced with a continuing cost/price squeeze.

Second, there is a cluster termed 'Policy Dependent': those farming households that are dependent on the SFP; are dependent on agricultural productivity; and are not open to change. Although, overall, 50% considered the market to be their principal source of income, 14% perceived their principal source of income to be the SFP. As mentioned earlier, there may be a perception issue here, with FBS data suggesting far higher levels of SFP dependency. Indeed, 27% were likely or highly likely to leave farming if the SFP were to be reduced. Looking forward, there was a continuing majority reliance on the market for future household income but income dependency on the SFP increased to 23%. There is, then, a cluster of farming households that are overly dependent on the SFP. Members of this cluster will tend to be vulnerable to CAP reform, policy change and market conditions.

The third cluster, termed 'Pro-active', consists of farming households that have diversified; have multiple income streams; are open to new ventures and entrepreneurial opportunities; and embrace environmental responsibility and the demands of the emerging rural development paradigm. For example, 41% of the survey sample had non-farm sources of income; 50% were engaged in some type of diversification activity; 43% were above average on the index of diversification; and 53% were above average on the entrepreneurship index.

In conclusion, we can begin to see how the diversification, multifunctional and entrepreneurial activities of farming households have the potential to be drivers for the emerging new rural development paradigm, and the potential to be a basis for the eco-economy of rural Wales.

However, it must be recognised that many, though not all, of these activities remain dependent, to varying degrees, on the payments associated with agri-environmental schemes and a range of grants and other policy initiatives.

SECTION 1 INTRODUCTION

1.1 Outline of the project

This report concerns a survey of farming households in Wales that was conducted by the Wales Rural Observatory [WRO] and commissioned by the Welsh Assembly Government [WAG]. The survey was carried out between 29th January 2010 and 3rd March 2010. In outline the aims of the project were to identify farming household income streams; assess the extent of diversification and multiple jobs; assess household resilience with regard to Common Agricultural Policy [CAP] reform; explore possible responses to CAP reform; and explore behavioural attitudes. More broadly, the project provides evidence to allow WAG to monitor the impact of its policies and inform the implementation of the Rural Development Plan [RDP]. It is envisaged that longitudinal data will be obtained by repeating the survey at three year intervals. The project's aims are set out formally in Section 3 – 'Research Methods'.

This WRO survey will add value to other previous and existing research in two ways. Firstly, the survey will fill an evidence gap by focusing specifically on farms in Wales to garner information and provide comprehensive data on both farm practices and farmers' attitudes on a range of topical issues. Other than the Farm Business Survey [FBS] and Farmers Voice, neither of which has an exclusive focus on Wales, there is little evidence concerning the state of farm business activities in Wales. Secondly, the survey will provide a database for a hitherto unexplored sector, which will connect with both completed and forthcoming WRO work.

1.2 Relations to other WRO work

1.2.1 The Eco-economy

This survey will provide a data source for future WRO work on the eco-economy. The 'Assessing the Eco-economy' (WRO, 2006[1]) report was essentially a scoping exercise for future deeper work on the eco-economy by WRO. The case-studies were non-farm: three were entrepreneurs (one grew apples and sold single-variety apple juice, which was the nearest case-study to farming); two were 'institutional' (FC and NT); and one was a community-based enterprise. This survey will identify (potential) connections between farming and the eco-economy by identifying farm practices and exploring farmers' attitudes connected to issues such as ecology, environment, agri-environmental schemes, energy crops, organics, CAP reform, woods and climate change.

1.2.2 Business survey

The WRO 'Rural Business Surveys' of 2004 and 2007 specifically excluded farmers. This survey of farmers will be a data source for WRO work on farm businesses and off-farm businesses. It will, for example, identify changes in farm practices over time and the reasons for these changes; quantify IT/Internet/Broadband use by farmers for business; and examine farmers' attitudes towards issues such as innovation, entrepreneurship, diversification and synergies with other sectors.

[1] Wales Rural Observatory (2006) Assessing the Eco-economy of Rural Wales. Cardiff University: School of City and Regional Planning, Wales Rural Observatory

1.2.3 Rural Development

This survey will provide a data source for future WRO work connected to the Wales Rural Development Plan and CAP reform.

1.3 Other farm surveys

The Farm Business Survey [FBS] is an annual survey carried out in England and Wales for Defra by a consortium of universities. Aberystwyth University conducts the Welsh element of the FBS. The FBS is a longitudinal survey, with some farmers staying in the survey for 15 years, incorporating financial and physical data from a representative sample of 550 farms in Wales. Broadly, the FBS collects management accounting information: revenues, costs and turnover; assets and liabilities; land use; areas and sales of crops; sales and purchase of livestock; and amounts of labour used.

The other main survey of farms that includes Wales is Farmers Voice, which is conducted by ADAS. Farmers Voice is, again, a survey of farmers in England and Wales. The Farmers Voice survey has been conducted in 1999, 2000, 2002, 2004, 2005, 2006 and 2007. To date each year has focused on a single issue. For example, the issue for 2004 was Organic Farming, with 1,771 responses from 13,000 questionnaires posted (a rate of 14%). In 2005, 2006 and 2007 the focus was 'Farmer's intentions in the context of CAP reform'. The 2006 Farmers Voice survey yielded 2,100 responses from 12,000 questionnaires posted (a rate of 18%). A similar response rate (17%), from 12,000 questionnaires, was achieved in 2007.

Farm-based surveys with a specific focus on Wales such as those in the 1990s concerning diversification and the current series of annual surveys of Welsh organic producers conducted by Aberystwyth University deal with single issues and tend to lack comprehensiveness. Similarly, by definition, monitoring of Tir Gofal and Tir Cynnal focuses on the health of these schemes.

A farm survey, confined to England, is the Defra Farm Practices Survey. This statistical analysis draws on the Defra June Agricultural Census and provides technical data such as details of slurry storage and the transportation of animals.

Defra also commissioned a recent survey entitled 'Research to Understand and Model the Behaviour and Motivations of Farmers in Responding to Policy Changes (England)' (Garforth and Rehman, 2006). This research was conducted by the University of Reading. Its aim was to explore and assess the possibility of incorporating data on farmer's motivations and the influence on their behaviour into Defra policy analysis models. Researchers at Reading derived behavioural typologies from existing datasets and modelled farmer's responses to the Single Farm Payment [SFP]. In summary, the key findings, of interest to the current project, were:

- drivers such as environment, family and lifestyle are equally as important as economic drivers
- different farmers will respond in different ways to new policy initiatives
- uncertainty engendered by new policy makes it difficult for farmers to plan how to adapt to policy change

The other findings were concerned with progress and future research in agricultural economic modelling.

1.4 Structure of the report

Following this Introduction, there are a further eight sections to the report. Section 2 reviews in outline the current situation of farming in Wales, in terms of the number of farm holdings in Wales; trends in diversification; the components of income for farming households; forecasts and trends in the policy literature; and the academic literature. In Section 3 the rationale for the project and its aims and objectives are set out, and there are descriptions of the survey methods. Section 4 is concerned with the methods used to analyse the survey data. Then there are four sections of analysis. Section 5 works through each question of the survey, and provides frequency analyses, cross-tabulations and commentaries. There is a qualitative analysis in Section 6, which draws on responses to open-ended questions that posed potential scenarios for farming households. Section 7 is a typological analysis, which uses indices of Diversification, Multifunctionality[2] and Entrepreneurship, constructed from the survey data, to address issues of income and policy dependency. This leads to an integrated analysis in Section 8, which identifies vulnerable and resilient farming households in percentage terms. At the ends of Sections 5, 6, 7 and 8 key findings are presented in bullet-point format. Where appropriate, key findings are grouped under the Project Aims. Finally, Section 9 draws together the previous sections of the report to discuss the findings; to address the project aims; and to make concluding remarks.

[2] Multifunctional is a term first used in 1993 by the European Council for Agriculture Law. In 1996 the Cork Declaration articulated the commitment of the EC to Multifunctionality. Essentially multifunctionality gives sustainable agriculture a rural definition.

SECTION 2 THE CURRENT SITUATION

2.1 Introduction

Before embarking on the survey methods and analyses, it is useful to review the current situation of farming in Wales. The issues reviewed here are the numbers and types of farming households in Wales; trends in diversification; the components of income for farming households; forecasts and trends in the policy literature; and the academic literature concerned with farming households and rural development.

2.2 The numbers and types of farming households in Wales

As Table 2.1 indicates, over time, the number of dairy farms in Wales has decreased.

It should be noted that from 2002 'Total holdings' included minor holdings. Consequently, 'Total holdings' increased from this year.

Table 2.1 Farm and dairy holdings In Wales 1990 - 2007

Year	Total holdings	Dairy Holdings	Dairy Holdings using CTS	% of total holdings that are dairy	% of total holdings that are dairy using CTS
1990	29646	6374	*	22%	
1991	29710	6141	*	21%	
1992	-	-	*	-	
1993	29916	5786	*	19%	
1994	29910	5652	*	19%	
1995	28076	5370	*	19%	
1996	28090	5170	*	18%	
1997	27937	4960	*	18%	
1998	27903	4807	*	17%	
1999	28018	4596	*	16%	
2000	28410	4307	*	15%	
2001	28780	4100	*	14%	
2002+	**36473**	**4004**	*****	**11%**	
2003+	**35499**	**3766**	*****	**11%**	
2004+	**35855**	**3658**	*****	**10%**	
2005+	**36968**	**3512**	**4055**	**10%**	**11%**
2006+	**37448**	**3368**	**3991**	**9%**	**11%**
2007+	**38215**	**-**	**3835**	**-**	**10%**

(CTS) Cattle tracing scheme – introduced 2005
(+) Total holdings include minor holdings
(-) Not available
(*) No data

Although there have been changes to the measurement criteria (see Table 2.1 notes) the data show a decrease in total holdings, accompanied by a loss of dairy farms in both total numbers and as a proportion of the total farms in Wales.

WAG survey data indicate that in 2008 there were a total of 38,869 holdings in Wales, covering a land area of 1,454,673 hectares. The majority of this area (57%) was used for Less Favoured Area [LFA] grazing. Just under half (46%) of the farmed land was occupied by small or very small holdings. Of the total number of holdings, 38% were dormant. "Dormant" holdings are holdings that exist but do not have any agricultural activity. These holdings will include farmers who still own agricultural land but rent it all out (the activity on the rented land being reported by the tenant). Also it will include holdings for which there no information exists – such as new holdings from the previous year that failed to respond to surveys. These accounted for 14% of the total land area covered by farms in Wales.

From these data, as of 2008, there were 24,254 active holdings in Wales. In terms of economic size, 53% were classified as very small; 29% as small; 12% as medium; 4% as large; and 2% as very large.

Economic size is calculated as a weighted sum of each hectare of crops and each type of livestock. Farm size is measured in European Size Units [ESU], where one ESU is defined as 1200 European Currency Units [ECU] of Standard Gross Margin [SGM]. [3]

ESUs provide a measure of the economic size of holdings in terms of the value they add to variable inputs and thus from physical measures, such as area, which take no account of the intensity of production.

The standard EU economic size groups are:

Very small - Less than 8 ESU
Generally, these farms are considered too small to provide full time work for one person.

Small - More than 8 to less than 40 ESU

Medium - More than 40 to less than 100 ESU

Large - More than 100 to less than 200 ESU

Very large - More than 200 ESU

Table 2.2 shows the proportions of farm types covered by the WAG 2008 survey.

[3] European Size Units [ESU] are a measure of the economic size of a farm business based on the gross margin imputed from standard coefficients for each commodity on the farm. The application of these standard coefficients results in the Standard Gross Margin (SGM) for a farm or group of farms. 1 ESU = 1200 SGM.

The Standard Gross Margin may be different from actual margin on a farm because of the wide variation between farms with the same physical composition. One ESU roughly corresponds to either 1.3 hectares of cereals; or one dairy cow; or 25 ewes; or equivalent combinations of these. (Source: DEFRA)

Table 2.2 – Main farm type

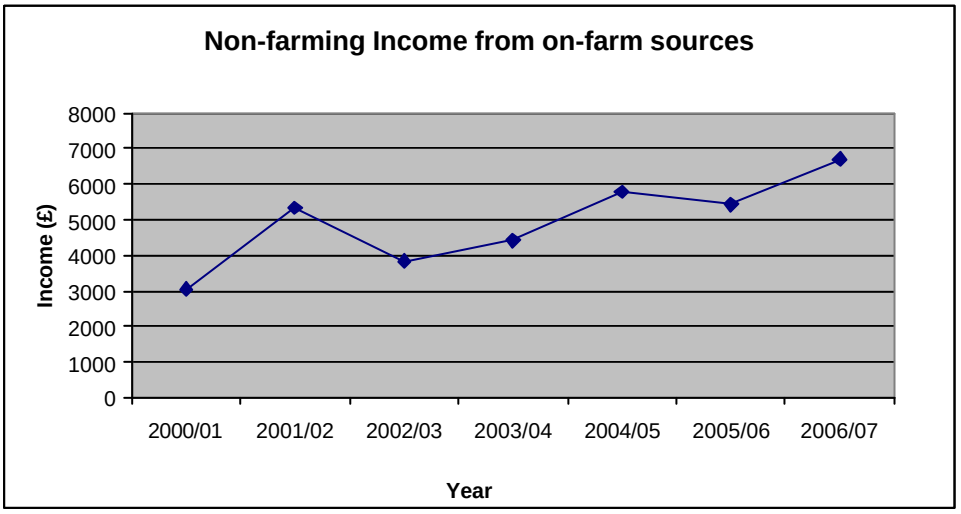
Main Farm Type	WAG 2008
Dairy	9%
LFA Grazing	53%
Lowland Grazing	11%
Poultry	3%
Cereals	2%
Horticulture	2%
Other (general cropping = 1%, pigs = <1%, mixed = 4% and other active =16%)	21%
Total Active	24,254

In terms of relative contributions to the aggregate European Size Unit [ESU] of farms in Wales, the 9% of dairy holdings made the largest contribution (41%) and three quarters of these were large or very large holdings. Farms classified as LFA grazing contributed just over a third (37%) to aggregate ESU, although over half of total holdings were of this farm type. These LFA grazing farms were mostly small (44%) or medium (38%). The remaining farm types each contributed much smaller portions to aggregate ESU - each below 7%.

2.3 Trends in diversification

Data from the Farm Business Survey show that since 2000/01 there has been a general upward trend in non-farming income from on-farm sources (income generated on the farm by non-farming activities and enterprises) for all farm types. Figure 2.1 shows that between 2000/01 and 2006/07 income from these sources has more than doubled, from £3,100 to £6,700.

Figure 2.1



Source: Farm Business Survey

Care should be taken when interpreting these results as the data are sourced from the Farm Business Survey, which does not sample farms smaller than 0.5 Standard labour Requirements (smaller than half time). Due to their part-time nature these farms may have significant amounts of diversified activity, not included in these results.

The **European Structural Survey** is carried out every three years and includes an analysis of 8000 Welsh farms. The indication is that 15% of farms surveyed had diversified activity with tourism proving most popular. Data on diversification are detailed in Table 2.3, Table 2.4 and Table 2.5.

Table 2.3 Diversified activity data from 2007 European Farm Structure Survey

Economic size group	With activity	Without activity	No response	Total
Very small	519	2,232	355	3,106
Small	382	2,221	172	2,775
Medium	230	1,233	81	1,544
Large	78	477	29	584
Very large	29	152	8	189
Total	1,238	6,315	645	8,198
Tourism accommodation		398	32%	5%
Tourism other		183	15%	2%
Contracting/haulage		170	14%	2%
Sport/recreation		139	11%	2%
Direct sales		95	8%	1%
Wood processing		55	4%	1%
Beekeeping		51	4%	1%
Processing/food manufacture		49	4%	1%
Renewable energy		34	3%	0%
Livestock haulage		32	3%	0%
Aquaculture		9	1%	0%
Other		334	27%	4%
Total		1,549		

Table 2.4 Share of Welsh holdings with some diversified activity by economic size, 2007

Economic size group	Share of responses			Total (=100%)
	With activity	Without activity	No answer	
Very small	17%	72%	11%	3,100
Small	14%	80%	6%	2,800
Medium	15%	80%	5%	1,500
Large	13%	82%	5%	600
Very large	15%	80%	4%	200
Total	15%	77%	8%	8,200

Source: European Farm Structure Survey, 2007

Reporting only on those farms that responded to the survey. Farmers were asked whether they had diversified activities or not. Some farmers left the question blank and these are counted under "no answer". These farms may or may not have diversified activity. The economic size groups are standard European categories based on a weighted sum of farming activities (crop areas and numbers of livestock)

Table 2.5 Most common diversified activities, 2007

	Number of responses	Share of those with activity
Tourism accommodation	400	32%
Tourism other	185	15%
Contracting/haulage	170	14%
Sport/recreation	140	11%
Direct sales	95	8%
All activities	**1,240**	**100%**

Source: European Farm Structure Survey, 2007

Farmers were asked to select from a list of various activities. This table selects the 5 most common activities .A holding can have more than 1 diversified activity.

2.4 The components of income for farming households

Data from the Farm Business Survey, which provides a breakdown of income sources for farming households in Wales, are shown at Table 2.6.

Table 2.6 Components of Farm Business Income in Wales 2008 – 2009

Income Source	Dairy (£)	LFA Grazing Livestock (£)	Lowland Grazing Livestock (£)	All Farm types (£)
Agricultural production (excluding subsidies)	27,200	-11,800	-2,300	-4,000
Single Farm Payment	28,500	27,700	22,600	27,400
Tir Mynydd and agri-environmental schemes	2,800	7,300	2,400	5,800
Diversified activities	900	900	1,000	1,200
Other subsidies and payments to agriculture	2,900	400	800	900
Farm Business Income	62,200	24,500	24,400	31,300

Source: Farm Business Survey [FBS]

Notes:

1. Numbers are rounded to nearest £100. Totals may not sum due to rounding.
2. 'Other subsidies and payments to agriculture' includes bTB and other compensation payments.
3. The costs associated with claiming Single Farm Payment [SFP] were collected/calculated in the FBS for the first time in 2008/2009 (i.e. the cost of keeping land in GAEC etc.) In this table these costs have been included (deducted) from the 'Income from agricultural production' line. This is to ensure consistency with the 'Components of Farm Business Income' tables produced in previous years. The SFP costs averaged approximately £4,200 in 2008/2009.

The data at Table 2.6 indicate that for the farms in the FBS:

→ Only dairy farms drew an income from agricultural production – other types of farm made a loss

→ The SFP contributed the following proportions of income:
- 45.8% for dairy farms
- 113% for LFA farms
- 92.6% for Lowland grazing farms
- 87.5% for all farms

→ LFA farms were particularly dependent on agri-environmental scheme payments

→ Subsidies contributed 4.6% of income for dairy farms – considerably more than the proportions for the other farms

Although Tir Mynydd is included with agri-environmental schemes, arguably, as the social payment component of LFA it is not strictly related to agri-environmental scheme payments. Inclusion of Tir Mynydd tends to skew agri-environmental scheme entrant data.

Table 2.7 shows CAP payments to farms for 2009.

Table 2.7 CAP payments in Wales

CAP payments 2009	Pillar I (Direct EAG)	Pillar II (Rural development)
less than £5,000	41%	81%
£5,000 – £9,999	15%	8%
£10,000 - £14,999	11%	3%
£15,000 - £19,999	9%	2%
£20,000 - £24,999	6%	1%
£25,000 - £29,999	5%	1%
£30,000 +	14%	3%
Total Recipients	16,351	13,935
Total received	£254,503,209	£78,138,131
Average payment	£15,565	£5,607

2.5 The Policy literature

In Wales, three themes are currently prominent in the policy literature in terms of farming: a focus on sustainable rural development; the introduction of Glastir, the new agri-environmental scheme; and CAP reform post- 2013. To an extent these themes are inter-connected; taken together they signify a policy shift away from agricultural productivism and the emergence of a new rural development paradigm.

2.5.1 Sustainable rural development

A policy focus on sustainable rural development was signalled by, among others, two key documents. First, Farming, Food & Countryside: Building a Secure Future (WAG, 2007). [4] This strategy document outlines the Welsh Assembly Government's Rural Affairs policy direction through to 2020. It sets out a clear vision of Welsh farming at the heart of a sustainable countryside and profitable rural economy; an industry able to meet future challenges and take advantage of the opportunities presented in an increasingly volatile and globalised economy. The strategy's aims and objectives are to secure a sustainable and profitable future for farming families and businesses, and to safeguard the Welsh countryside environment. It highlights five key themes:

- Connecting to the marketplace
- Producing sustainably and profitably
- Safeguarding animal health and welfare, plant health and food safety
- Sustaining our countryside
- Encouraging innovation

[4] Welsh Assembly Government (2007) Farming, Food & Countryside: Building a Secure Future

Second, the Rural Development Plan [RDP] for Wales 2007 -2013 (WAG, 2007). [5] is the policy document specifically aimed at administration of the European Agricultural Fund for Rural Development [EAFRD] for the period 2007-2013. Rural development is known as Pillar 2 of the CAP and complements the farm income support payments under Pillar1. The RDP is principally focused on the development and regeneration of rural space in Wales; it addresses sustainable rural development through the use of the four axes defined by the EAFRD:

Axis 1- Improving the competitiveness of the agriculture and forestry sectors: e.g. adding value to farm and forestry products; the use of farm and forestry advisory services; and the diffusion of scientific knowledge and innovative practices.

Axis 2- Improving the environment and countryside: e.g. natural handicap payments; agri-environmental payments; support for non-productive investments; and first afforestation of agricultural and non-agricultural land.

Axis 3- The quality of life in rural areas and diversification of the rural economy: e.g. diversification into non-agricultural activities; the creation and development of micro-enterprises; encouragement of tourism; and village renewal and development.

Axis 4- ***LEADER***

The RDP document includes a SWOT analysis. Some of the key weaknesses identified are a farm industry largely dependent of CAP payments (Axis 1); a high proportion of low grade land (Axis 2); a narrow and vulnerable economic base (Axis 3); and across the board, low income levels.

[5] Welsh Assembly Government (2007) Rural Development Plan [RDP] for Wales 2007 -2013

2.5.2 Glastir and the agri-environmental schemes

Agri-environmental schemes provide opportunities for farmers to protect and nurture the environment in return for payments. Glastir is a new agri-environmental scheme, which had an Impact Assessment in the period September 2009 to December 2009 on 70 trial farms. It is scheduled to be introduced in January 2012, with transitional arrangements in place until 2014. Glastir reflects WAG's new environmental commitments and new strategies on food and farming. In addition, Glastir prepares for the implementation of the Water Framework Directive and responds to the CAP Health Check's 'New Challenge' agenda, which includes the role of farmers in combating climate change; improving water management; maintaining and enhancing biodiversity; and developing bio-energy. It is the intention that Glastir and its focus on ecosystems services will be in place through to 2020 and beyond, providing stability for farmers as well as environmental benefits.

Glastir will replace five existing schemes: Tir Gofal, Tir Cynnal, Tir Mynydd, Organic Farming and Better Woodlands for Wales. Outlines of these schemes follow.

Tir Gofal is WAG's main agri-environmental scheme. It pays farmers to manage agricultural land in an environmentally beneficial way, and is open to any landholding in Wales judged to have sufficient actual or potential environmental value. The scheme has paid more than £100 million to landholders since it began in 1999, and covers around 3,000 farms and approximately 20% of agricultural land in Wales. Tir Gofal's core objectives are to:
a) protect and enhance habitats of importance to wildlife;
b) protect the historic environment;
c) protect and restore rural landscapes; and
d) promote public access to the countryside.

Not as demanding as Tir Gofal, Tir Cynnal is WAG's entry level scheme. It was introduced in 2005. Tir Cynnal's core objectives are to:

- Prevent loss of bio-diversity by protecting wildlife habitats
- Protect important landscape features on farmland
- Safeguard archaeological and historic sites
- Protect and improve the quality of water, soil and air

Much of the land of Wales is of poor agricultural quality. Approximately 80% of the total 1.6 million hectares of agricultural land in Wales falls within the designated Less Favoured Area (LFA); 56% is in the Severely Disadvantaged Area (SDA); and 23% in the Disadvantaged Area (DA). The objective of the Tir Mynydd scheme is to support and maintain livestock production in the LFAs of Wales in order to avoid land abandonment and rural depopulation. In order to continue to receive LFA payments, farms currently in Tir Mynydd will have to enter Glastir.

The Organic Farming Conversion Scheme offers support for organic conversion over a two year period.

The Better Woodland for Wales scheme offers grants to support good woodland management in Welsh woodlands.

The Glastir scheme is scheduled to be introduced in January 2012, with transitional arrangements in place until 2014. It is the intention that Glastir and its focus on ecosystem services will be in place through to 2020 and beyond, providing stability for farmers as well as environmental benefits.

2.5.3 CAP reform

Following the CAP Health Check in 2008, the then Commissioner Mariann Fischer Boel's stated aims were to shift more funding to Rural Development and to reduce direct payments (SFP) through more compulsory modulation and a new progressive modulation scheme (Agrafacts, 12/11/08. [6] Modulation entails the transfer of CAP funds from direct aid to farmers and market measures (Pillar 1 of the CAP) to rural development measures (Pillar 2). A Ministerial Statement of 25/11/08 announced that Wales can retain the historic basis for the single payment scheme until 2013 at least. However, for the period between 2014 and 2020, it is apparent that payments will not be made under the system based on production that was used between 2000 and 2002. From 2013, payments are likely to be on an area basis. The potential implications of these changes are that some farms will receive reduced payments.

With regard to modulation, the current EU compulsory regime at 5 per cent will increase to 10 per cent by 2012 through stepped increases at 2 per cent in 2009 and 1 per cent for each of the years 2010, 2011 and 2012. The receipts from the increase in compulsory modulation will transfer for use under rural development plans to support activities that address issues relating to climate change, water management, biodiversity and renewable energy, innovation and the dairy industry.

A paper by Zahrnt (ECIPE Working Paper 08/2009) [7] makes some suggestions regarding a new progressive modulation scheme:

a) Phase out SFP – 'any CAP reform must start with a decision of the future of the SFP.' Though decoupled from Production, SFP still distorts production.

b) Need to replace pillar 1 and pillar 2 with:
Public goods pillar – preserve all policies that efficiently promote public goods e.g. Well designed agri-environmental payments, Research into sustainable farming
Discretionary pillar – inefficient policies/instruments to be phased out at the discretion of state e.g. SFP and other income support, LFA, Coupled payments, Payments for improving farm productivity, Poorly designed agri-environmental payments

Payments that pretend to promote public goods but are actually designed to channel income support to farmers would be eliminated, to the extent that is practically possible, by enhancing EU oversight of programming and stricter EU monitoring of implementation. Rural development payments unrelated to agriculture would, to the extent that their continuation is justified by a European interest, be merged into other EU policies. This Zahrnt argues, would remove from the CAP abusive public goods payments and rural development programmes without a clear link to agriculture. Member states would be free to shift funds, at their discretion, from their Discretionary envelope to their Public Goods envelope.

2.6 The Academic literature

The academic literature has responded to and reflects a perceived ongoing shift away from agricultural productivism towards broader sustainable rural development. It delivers a critique of both policy and

[6] AgraFacts No. 98-08 12/11/08

[7] Zahrnt, V (2009) Public Money for Public Goods: Winners and Losers from CAP Reform. European Centre for International Political Economy.

theory, and takes a normative stance towards policy and practice.

Put broadly, the academic literature argues that there is an emerging new paradigm of rural development based upon the re-construction of a rural eco-economy. This new paradigm consists essentially in the growth of ecological goods and services more generally, and in rural-based ecological modernisation. Ecological modernisation may be understood as a broad-based amalgam of policy concern that suggests more normative approaches for the practice of sustainable development through the reform and transformation of social structures, governments, businesses and markets (Marsden, 2004). In addition, its advanced formulations provide an integrated approach to technology, environmentalism and society – key concepts in rural sustainable development processes

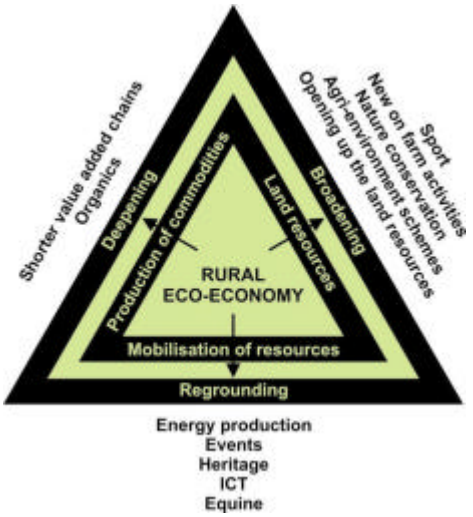
With regard to farm enterprises, typically they entail three aspects: agricultural activities, the mobilization of resources, and relations with the local area (van der Ploeg et al, 2002; Kitchen and Marsden, 2009). See Figure 2.2 below:

Figure 2.2 The three sides of the agricultural enterprise

Source: Van der Ploeg *et al* (2002, p12)

As Kitchen and Marsden (2009) suggest, in and through the processes of rural development the relations between these three aspects will be both socially reproduced and transformed as rural actors attempt to re-value and define their economic and resource structures. Traditional economic activities (for example agriculture and forestry) are transformed, diversified and expanded by linkages and associations with new actors and agencies. New products possess the potential to add more value in the new markets demanded by wider society: organics, shorter supply chains, and value-added products. Typical examples of *deepening* could be organic farming; high quality foods through on-farm production; and short linkages between production and consumption created by selling to local markets such as farmers markets. Interactions with the rural environment are *broadened*, which might include nature conservation, agri-tourism, leisure, sport and amenity provision, heritage, and energy crops. Rural enterprises, grounded in new or different sets of resources, become involved with new patterns of resource use. Examples of *re-grounding* the mobilization and use of resources might be energy production, special events, equine activities, and ICT. Figure 2.3 illustrates these new relationships.

Figure 2.3 The dynamics of rural development at enterprise level



Adapted from Van der Ploeg *et al* (2002)

Working examples of these eco-economic categories might be organic and quality food production, short supply chains, eco-tourism and energy production. At the farm level the academic literature focuses on diversity, multifunctionality, adding-value, pluriactivity and entrepreneurial risk- taking.

In terms of policy the academic literature is concerned with theories of ecological modernisation and how ecological enterprise and the skills that are associated with it can be grown, with the assistance of interventions by the multi-level State.

Some key texts in the academic literature are:

Kanemasu, Y., Sonnino, R., Marsden, T and Schneider, S (2007) *Testing the web: A comparative analysis of the results achieved through the quick scan*. A constituent report of the Enlarging Theoretical Understanding of Rural Development (ETUDE) project. (Cardiff: Cardiff University)

Kitchen, L. and Marsden, T. (2009) Creating more Sustainable Rural Development through stimulating the Eco-Economy: Beyond the Eco-economic paradox? Sociologia Ruralis 49 (3) 273-294.

Marsden, T.K. (2003) The condition of rural sustainability. (Assen, The Netherlands: Van Gorcum)

Marsden, T.K. (2004) The quest for ecological modernisation: re-spacing rural development and agro-food studies. *Sociologia Ruralis*, 44 (2) pp. 129-147

Marsden, T. K. ed. (2008) *Sustainable Communities: New Spaces for Planning, Participation and Engagement*. (Oxford: Elsevier)

Marsden, T.K. and Parrott, N. (2006) Reconnecting Farming and the Countryside? RD in the UK. In: O'Connor, D., Renting, H., Gorman, M., Kinsella, J. eds. 'Driving Rural Development: Policy and Practice in Seven EU Countries'. (Assen, The Netherlands: Van Gorcum)

Marsden, T.K. and Smith, E (2005) Ecological Entrepreneurship: Sustainable Development in Local Communities Through Quality Food Production and Local Branding. *Geoforum*, 36 pp. 440-445

Marsden. T.K and Sonnino, R (2008) Rural development and the regional state: denying multi-functional agriculture in the UK. *Journal of Rural Studies,* 24 pp. 422-431

Morgan, K., Murdoch, J and Marsden, T (2006) *Worlds of Food: Place, Power and Provenance in the Food Chain.* (Oxford: Oxford University Press)

Morgan, S, Marsden, T, Miele, M, Morley, A (2009) Agricultural multifunctionalty and farmers' entrepreneurial skills: a study of Tuscan and Welsh farmers. Journal of Rural Studies.

Van der Ploeg, J.D., and Marsden (2008) Unfolding Webs: the dynamics of regional rural development. (Assen, The Netherlands: Van Gorcum)

Van der Ploeg, J. D., Long, A and Banks, J eds (2002) *Living Countrysides: Rural Development Processes in Europe: The State of the Art*. (Netherlands: Elsevier)

Van der Ploeg, J., Broekhuizen, R., Brunori, G., Sonnino, R., Knickel, K-H., Tisenkopfs, T and Oostindie, H (2008) *Towards a new theoretical framework for understanding regional rural development*. Working paper, Enlarging Theoretical Understanding of Rural Development (ETUDE) project.

Vesala, K, M. and Pyysiainen, J. eds. (2008) Understanding Entrepreneurial Skills in the Farm Context. University of Helsinki: ESOF

Wilson, G A (2007) From 'weak' to 'strong' multifunctionality: Conceptualising farm-level multifunctional transitional pathways. JRS 24 , 367-383

Wilson, G.A (2007) *Multi-Functional Agriculture: A Transitional Perspective.* (CABI International)

de Wolf, P and Schoorlemmer, H (2007) eds *Exploring the Significance of Entrepreneurship in Agriculture*. (Frick, Switzerland: Research Institute of Organic Agriculture)

SECTION 3 METHODS

3.1 Rationale for the survey

The WRO survey of farming households in Wales adds value to other previous and existing research in two ways. Firstly, the survey fills an evidence gap by focusing specifically on farms in Wales to garner information and provide comprehensive data concerning farmers' attitudes over a range of topical issues. Secondly, the survey provides a database for a hitherto unexplored sector, which connects with both completed and forthcoming WRO work.

3.2 Project aims and objectives

The project aims agreed with WAG were to:

1) Identify household income streams by assessing farming household total income from farming and non farming activities;
2) Bring out the extent of diversification and multiple jobs;
3) Outline possible responses to CAP reform, and explore behavioural attitudes;
4) Establish household resilience and vulnerability with regard to CAP reform;
5) Provide evidence to allow WAG to monitor the impact of its policies and inform the implementation of the Rural Development Plan. It is envisaged that longitudinal data will be obtained by repeating the survey at three year intervals.

Once the project aims were agreed, the WRO produced a paper entitled 'Farming household survey aims, rationale and themes' as a resource for the project. This paper set out operational requirements; WAG's aims and objectives; and a rationale for the survey. It reviewed in outline themes from the academic and policy literatures, and linked these themes with WAG aims and objectives; derived underlying hypotheses; and suggested themes and issues for inclusion in the survey questionnaire, and themes for the analysis.

3.3 Survey method

In order to achieve the project aims it was decided to conduct the survey by means of a questionnaire to farming households. Two options were considered: a postal survey and a telephone survey.

It was decided that a telephone survey, conducted by a contractor, would be more cost effective and carried more certainty of achieving the desired number of responses. Three parallel processes were then carried out: designing the questionnaire for the survey; constructing the sample; and obtaining a suitable contractor.

3.4 Contracting the telephone survey

Before obtaining quotations from contractors an outline format for the questionnaire was prepared.

The project requirements provided to prospective contractors were:

- A telephone survey of farmers in Wales;
- Each interview would be 20 minutes in length;
- The interviewee would be the business decision-maker of the farming household:
- A prepared questionnaire would be used;
- The majority of responses would be coded;
- There would be two verbatim qualitative questions;
- A total of 1,000 completed interviews was required;
- There would be a pilot study of 40 interviews, which would be included in the total of 1,000;
- A dataset of 10,000 farmers with contact details would be provided;
- The sample would be stratified into five categories of economic farm size, with a quota in each category;
- Some interviews would be in the Welsh language;
- The survey would commence in late January and would be completed by mid-March.

The prospective contractors were also apprised of the broad aims of the project.

Three contractors were asked to provide quotations. After due consideration, Opinion Research Services [ORS] of Swansea was chosen. The ORS quotation was marginally the lowest but, in addition, they had worked before with Cardiff University and it was felt that they offered good Welsh language capability.

3.5 Designing the questionnaire

The task was to design a questionnaire that would elicit the required information; was telephone-friendly; and would take 20 minutes to complete. Designing the questionnaire involved an iterative process between WRO and the interested departments in WAG. WRO team members used role play to test the length of the questionnaire at various stages in the design process.

An important step in the questionnaire design was the involvement of the farming unions. The WRO sent a working draft of the questionnaire to NFU Cymru, the Farmers Union of Wales [FUW], the Country Land and Business Association [CLA] and Wales Young Farmers Club and invited them to a meeting for discussions. A meeting was held on 12th January 2010 and was attended by WRO team members and representatives from NFU Cymru and the FUW. The meeting was extremely productive and the farming union representatives, in addition to being positive about the survey, made several important and useful contributions concerning both the content of the questionnaire and the conduct of the survey.

As the later stages of questionnaire design were reached, ORS contributed by adjusting the format of the questionnaire to suit their interviewers and by adding instructions for their interviewers. To ensure that the questionnaire was not compromised in terms of content and style, this was an iterative process with WRO.

The final questionnaire was sent to WAG for perusal and approval and was subject to the WAG Survey Control process. A copy of the questionnaire is at Appendix 1 of this report.

Two important methodological points should be noted. First, interviewers asked to speak with the business decision-maker of the farming household. Second, interviewees were offered the opportunity to complete the survey in the Welsh language.

3.6 Constructing the sample

Following discussions with the Agriculture and Rural Affairs Statistician of WAG, it was decided to release a sample of 10,000 farm details and pass this on to ORS. This was from a total held by WAG of 13,000 farm details.

The sample was stratified by economic farm size using the standard EU economic size groups, which were discussed at Section 2.2.

Quotas for each stratification category were set using a ratio of 10:1, and the numbers were rounded to ten digits. Anticipating difficulties in obtaining sufficient responses from 'Very large' farms, they were combined with 'Large' farms. Table 3.1 below shows these details, and the achieved quota.

Table 3.1 Survey sample, stratification and quota

Economic farm Size	Sample	Quota	Quota achieved
Very small	3096	310	317
Small	3572	360	361
Medium	2027	200	201
Large/ Very large	926 379	130	130
TOTALS	**10,000**	**1,000**	**1,009**

Consideration was given to further stratification by location of a farm within a Local Authority area. However, it was decided that potentially there was too much variation in farm size and type within any one Local Authority area for this mode of stratification to be meaningful.

3.7 The survey sample compared to national statistics

The WRO survey of farming households in Wales covered 31% of very small farms; 36% small; 20% medium; 9% large; and 4% very large farms. In the WRO survey, just over half of active holdings (53%) were LFA grazing; 11% were lowland grazing; 9% were dairy; and 4% were mixed. Poultry, horticulture, cereals, general cropping and pigs each comprised less than 3% of active holdings.

Table 3.2 compares the proportions of farms surveyed by the WRO survey and the WAG 2008 survey, in terms of economic size. Note that, for the purposes of this comparison, the dormant holdings have been removed from the WAG 2008 data. This gives a base figure of 24,254 holdings, from which proportions are calculated.

Table 3.2 Economic size of farms in WRO and WAG 2008 surveys

Economic Size	**WRO survey response**	**WAG 2008**
Very small	31%	**53%**
Small	36%	**29%**
Medium	20%	**12%**
Large	9%	**4%**
Very large	4%	**2%**
Total Active	1,009	**24,254**

Note that the proportions of the WRO survey response were structured by, and adhered to, the proportions of the sample presented by WAG.

Table 3.3 compares the WRO survey and WAG 2008 data in terms of farm type. It shows that the WRO survey was a close representative sample based on economic size compared with Wales as a whole.

Table 3.3 Farm types in WRO and WAG 2008 surveys

Main Farm Type	WRO	Main Farm Type	WAG 2008
Dairy	16%	Dairy	9%
Beef and Sheep LFA	55%	LFA Grazing	53%
Beef and sheep non LFA	11%	Lowland Grazing	11%
Poultry	1%	Poultry	3%
Cereals	1%	Cereals	2%
Horticulture	1%	Horticulture	2%
Other (inc forage=1%)	14%	Other (general cropping =1%, pigs =<1%, mixed = 4% and other active =16%)	21%
Total Active	1,009	Total Active	24,254

Tables 3.4 and 3.5 compare the WAG 2008 survey and the WRO farming household survey in terms of Farm Labour and the age of the farm decision makers who responded to the surveys.

Table 3.4 – Farm Labour

WRO survey	WRO %	WAG %	WAG 2008
Family members	66%	**77%**	Total farmers, partners, directors and spouses
FT (non family)	5%	**6%**	Farm workers, regular FT
PT (non family)	7%	**8%**	Farm workers, regular PT
Seasonal or casual	21%	**9%**	Seasonal or casual workers
Total	3,253	**57,100**	Total labour engaged on holdings (minus managers)

Table 3.5 - Principal farm holders in Wales, by age

	WRO Survey	WAG 2008 [8]
Under 25	<1%	<1%
25-34	3%	3%
35-44	13%	12%
45-54	24%	28%
55-64	30%	31%
65+	30%	26%
Total	1,009	37,875

3.8 Conducting the survey

Before the survey commenced, NFU Cymru advised their members via their e-mail newsletters. NFU Cymru and FUW both advised all of their offices throughout Wales, so that they could deal with any queries, and WAG

[8] The holder of the holding is that (natural or legal) person in whose name the holding is operated. The holder can own the holding outright or rent it or be a hereditary long-term leaseholder or a usufructuary or a trustee. A natural person may be with a single individual or a group of individuals, for example married couples, siblings, joint beneficiaries under a will or intestacy. A holder working on more than one holding will be represented more than once within the figures. Figures relate to main and minor holdings.

similarly informed their enquiry points. ORS commenced the survey on 29th January 2009. The initial Topline data report was received by WRO on 2nd February and contained information on 54 interviews, which was slightly more than the 40 interviews required for the Pilot study. A spreadsheet of the data for the two qualitative questions followed shortly afterwards. The quality of both quantitative and qualitative data was deemed satisfactory, and the survey continued. ORS informed WRO that the interview time was 23 minutes on average, which ORS considered to be acceptable and within the bounds of the contract. Topline reports were received on a weekly basis.

3.9 Survey completion, distribution and response rate

The final Topline data report was received on 3rd March 2009. This showed that 1009 interviews were completed. Of the original 10,000 sample, 2015 had not been contacted.

The overall response rate was:

1009 / (10000 – 2015) = 1009/7985 = 12.64%

Quota within the strata were met. These details are at Table 3.1 above. ORS reported that the average length of interview was 22.53 minutes. Table 3.6 shows the distribution of respondents by Local Authority.

Table 3.6 Respondents by Local Authority

Local Authority	Farming Households Interviewed
Carmarthenshire	181
Ceredigion	90
Conwy	38
Denbighshire	35
Flintshire	38
Gwynedd	82
Isle of Anglesey	35
Monmouthshire	57
Pembrokeshire	93
Powys	261
Vale of Glamorgan	11
Wrexham	13
Urban and Valleys	75
Total	**1009**

SECTION 4 METHODS OF ANALYSIS

4.1 Introduction

The methods for analysis were designed to address the aims of the research project.

Data from the survey questionnaire were collated and entered in SPSS [Statistical Package for the Social Sciences]. SPSS enables the production of statistics such as totals, percentages and cross-tabulations. The first part of the analysis consists of descriptive statistics, which quantify answers to the survey questions in terms of totals and percentages, accompanied by commentaries. There follows an analysis that employs cross-tabulations with key variables such as farm type and farm size, again accompanied by commentaries. These first two phases of analysis are used to address Aim 1 and Aim 2.

However, Aim 3 and Aim 4 required a deeper analysis. Aim 3 was met substantively by a qualitative analysis. To address Aim 4, it was decided to create a range of new variables; to create a range of typological Indices that would provide a measure of where farming households were in terms of diversification, multifunctionality, and their entrepreneurial skills and attitudes. Finally, the qualitative and typological analyses were integrated to derive measures of resilience and vulnerability.

4.2 Qualitative Analysis

To address Aim 3 - Outline possible responses to CAP reform, and explore behavioural attitudes – interviewees were asked two open-ended questions that posed distinctive scenarios. First there was a question about CAP reform, policy development and increased environmental responsibilities. The second question focused on the future of the market for agricultural products (the cost price squeeze).

The analysis of the responses to these two questions involved the development of a range of codes, which captured 'survival strategies', for each of the two scenarios. More specifically these codes were as follows.

Codes for survival strategies for policy change and increased environmental responsibilities:

1. Carry on business as usual-stay the same.
2. Uncertainty – not sure what to do.
3. Take on or adapt to more environmental responsibilities:
    3a: proactively
    3b reluctantly
4. Diversify/multifunctional/ multiple incomes.
5. Intensify the farm business/scale enlargement
6. De-intensify/downsize the farm business
7. Exit:
    7a Retire
    7b Sell up).

Codes for the survival strategies for cost price squeeze:

1. Carry on business as usual
2. Cut costs (i.e. farm more economically)
3. Uncertainty – not sure what to do.
4. Farm more environmentally
5. Diversify/multifunctional (outside farming)
6. Diversify/multifunctional (inside farming)
7. Intensify/scale enlargement
8. De-intensify/downsize the farm business
9. Exit :
    9a Retire
    9b Sell up.

Responses to the two questions were coded and cross-tabulated against a range of variables. This analysis is presented in Section 6.

4.3 Typological analysis – theoretical justification

The typological analysis to address Aim 4 required the creation of Indices for diversification, multifunctionality, and entrepreneurship. This enabled the development of measures for the resilience, vulnerability and policy dependency of farming households in terms of potential CAP reform and rural development policy changes. It allowed the following hypotheses to be tested:

Given the current and previous levels and structures of CAP support:

a. Farmers will be vulnerable to CAP reform as posited in the policy literature.
b. Farmers will be either unwilling or will not have planned to enter the emerging new rural development paradigm

Three Indices were created:

Diversification - the development of farm-based, non-agricultural activities to help sustain the farm holding.

Multifunctionality – the degree to which farms contribute, beyond their primary function of producing food and fibre, to environmental benefits such as land conservation, the sustainable management of renewable natural resources; the preservation of biodiversity; and socio-economic aspects.

It follows that performance on the index of multifunctionality was linked closely to agri-environmental schemes.

Entrepreneurship – the ability, skills and mindset of farmers in terms of assembling resources and innovations to find new ways of entering different markets.

The process of index creation consisted of, firstly, identifying those questions on the survey that applied to each index (see Appendix 2). Some questions, of course, applied to more than one index. Next, scores for each question were allocated. In allocating the scores, consideration was given to the weighting or importance of each question or part of a question. The maximum possible score for each index was then calculated. Using SPSS, each farm on the survey can be positioned on each index.

To construct a range or continuum for each index the arithmetic mean of scores for that index was calculated. Scores above the mean were termed 'above average' on each index, while scores below the mean were termed 'below average'. Sensitivity testing was carried out. This involved experimenting with weightings. For example, if a small change in weighting resulted in a small change in the mean for the index, the weightings were considered acceptable. But, if a small change in weighting resulted in a large change in the mean, the weightings were re-considered and re-calculated. The result of this was that three robust indices were created, which measured the extent of diversification, multifunctionality and entrepreneurship in the sample.

4.4 Typological analysis using Indices

On their own the indices provided measures of resilience and vulnerability. In addition, they allowed deeper analysis by cross-tabulation with independent variables such as farm type, farm size, age of respondent, and income.

4.5 Integrated Analysis

In Section 8, a final analysis brings together the qualitative analysis from Section 6 and the typological analysis from Section 7.

Variables were derived from the qualitative analysis by grouping into themes the responses to Q21 and Q22 of the farming households. Each of these thematically derived variables was coded as indicative of resilience or vulnerability.

These thematic variables were then cross-tabulated with the indices of diversification, multifunctionality and entrepreneurship, derived in Section 7.

From this analysis measures of resilience and vulnerability were derived and discussed.

SECTION 5 FREQUENCY ANALYSIS

This analysis consists of frequency analyses and commentaries. In addition, key cross-tabulations are carried out and discussed, and the data are illustrated with tables, charts and maps.

5.1 Contextual information

The initial analyses provide contextual information about the farms surveyed, their households, and locations.

5.1.1 Farm location

Table 5.1 shows the geographical coverage of the survey by Local Authority and the economic size of the farm.

Table 5.1 Farm location and Economic Size

Economic size of farm	Very small	Small	Medium	Large/Very large	TOTAL
Carmarthenshire	63	61	28	29	181
Ceredigion	32	31	14	13	90
Conwy	7	20	8	3	38
Denbighshire	11	14	8	2	35
Flintshire	16	12	5	5	38
Gwynedd	32	29	18	3	82
Isle of Anglesey	9	11	10	5	35
Monmouthshire	21	22	4	10	57
Pembrokeshire	29	22	18	24	93
Powys	61	107	68	25	261
Vale of Glamorgan	3	3	5	0	11
Wrexham	4	1	2	6	13
Urban and Valleys	29	28	13	5	75
TOTAL	**317**	**361**	**201**	**130**	**1009**

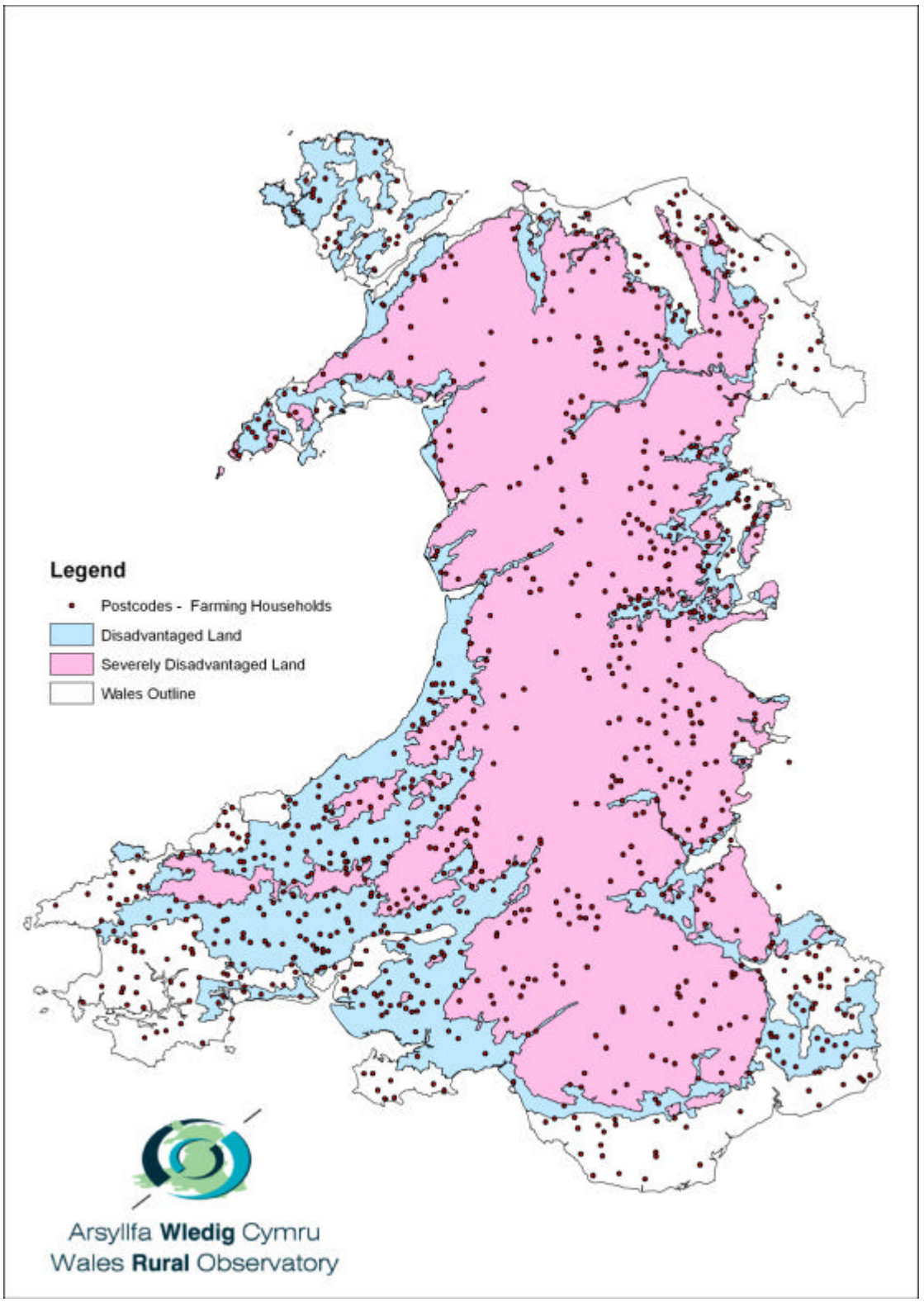
5.1.2 Less Favoured Areas

Spatial analysis, using Geographical Information Systems [GIS] technology and postcodes, enabled mapping of the surveyed farming households. The majority (78%) of farms surveyed were in designated Less Favoured Areas [LFA]. Moreover, many of the households in LFAs were farming 'Severely Disadvantaged Land'. Table 5.2 provides a breakdown of the proportions for LFA categories, and the map of Wales at Figure 5.1 shows the locations of the farming households surveyed in terms of LFA.

Table 5.2 Less Favoured Areas

	Outside LFA	In LFA	Disadvantaged land (LFA)	Severely Disadvantaged land (LFA)
Count (1009)	226	783	359	424
Proportion of survey sample	22%	78%	36%	42%

Figure 5.1 Wales and Less Favoured Areas



5.1.3 Tenure and Economic Size

With regard to tenure, Table 5.3 shows tenure and economic farm size.

Table 5.3 Farm Tenure and Economic Size

Economic size of farm / Tenure	Very small	Small	Medium	Large/ Very Large	TOTAL
Family owned	262	277	123	79	741
Rented	29	30	20	18	97
Mixed	25	54	58	33	170
TOTAL	**316**	**361**	**201**	**130**	**1008**

Table 5.3 shows that the majority of farms surveyed were owned by the farming household (74%) followed by Mixed Tenure at 16% and Rented at 10%. [9]

5.1.4 The farming family workforce

Data for the composition of the farm workforce highlighted the strong family household orientation of farms in the survey. Less than 2% of the farms surveyed did not have a family member working on the farm; almost half (46%) had two family members working; 24% had one family member; and 20% had three family members. Smaller proportions of the total surveyed had four, five or six family members and there were individual cases of farms with seven, eight and nine family members.

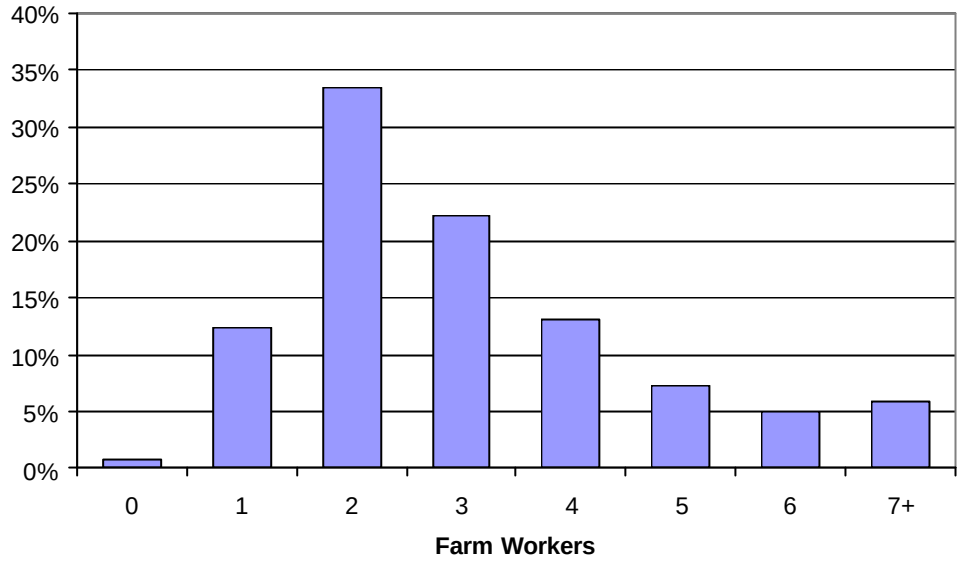
With regard to non-family, full-time employees, at 90% the large majority of farms did not employ non-family members. Of those farms that did employ non-family members, 7% employed one person and 2% employed two people. There was a small number of farms employing three, four, five and six people, and one farm had 25 non-family employees.

Farms that employed part-time and casual labour were in the minority: 87% did not employ part-time labour and 68% did not employ casual labour.

Figure 5.2 illustrates graphically the worker profile of farms in the survey.

[9] One respondent, a 'very small' farm, did not answer this question.

Figure 5.2 Worker profile of farms in the survey

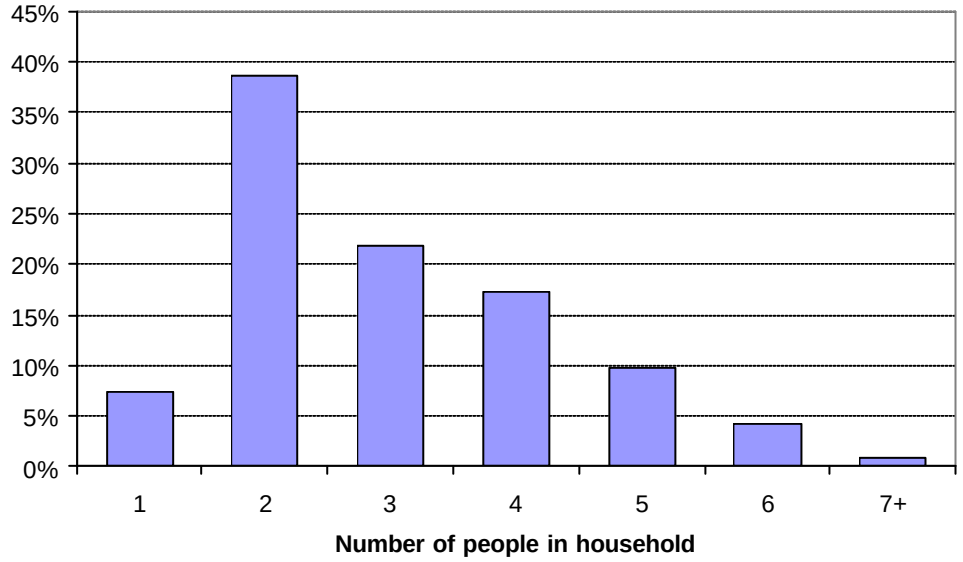


5.1.5 The farming household

The predominant farming family household in the survey, at 39% of the sample, had two people. Households with three people constituted 22% of the sample; with four people, 17%; with five people, 10%; with a single person, 7%; and 4% with six people.

There were smaller numbers of households with seven, eight or more people. Figure 5.3 illustrates household composition graphically.

Figure 5.3 Household composition



5.1.6 Farm type and core farming enterprises

Interviewees were asked four questions with regard to their main farm enterprises. First, they were asked to name them. Second, they were asked to rank them in order of importance. The largest proportion at 41% ranked sheep as their most important enterprise, followed by beef at 25% of farms, and dairy at 16%. Other first ranked enterprises, with small proportions of the survey, included poultry, cereals, forage crops and horticulture.

The third question about their main farm enterprises concerned what barriers or obstacles farmers had encountered. Interviewees could name more than one barrier. There were four prominent barriers named. Regulations were adduced as a barrier by 47%; 30% identified financial returns; 16% named administration costs; and 8% saw EU and CAP policy doubts as a barrier to their farming enterprises. Taken together, the farmers who identified inadequate advice, support and information as barriers amounted to 8% of the total. Other barriers identified by smaller proportions were training, transport, personnel capacity and succession. Barriers identified by individual farmers included agri-environmental schemes (Glastir was considered by some interviewees to be 'not promising'); constant changes to subsidies; and a misunderstanding of farming by the general population.

The fourth question regarding main farm enterprises concerned expansion. Of the 1009 farming households surveyed, 54% intended to maintain their farming activities at their current level; 27% planned to expand; and 19% stated that they would be reducing their farming activities.

The reasons given for not expanding included the constraints imposed by membership of environmental schemes; consideration for the environment; limited viability and economic returns; and a perceived lack of government interest in and incentives for farming.

5.1.7 Alternative enterprises

A final question in this section about the farm and its core enterprises prefigures the following section on Diversification. Interviewees were asked whether or not they were operating, or considering operating, a range of alternative agricultural enterprises, which are sometimes considered to be 'diversified'. These results are shown at Table 5.4.

Although alternative farm activities such as rearing organic livestock, organic crop production, and what may be termed 'alternative livestock rearing' were practised by a minority of the survey sample, there were indications that some farmers were considering developing these alternative enterprises.

Table 5.4 Alternative Enterprises

Alternative Enterprises	Currently operating	Considering	Not Considering
Horticulture	5%	5%	90%
Alternative Livestock e.g. pigs, water buffalo, llama, ostrich etc?	6%	8%	86%
Energy crops	2%	10%	88%
Industrial crops e.g. fibre, oils	1%	3%	96%
Organic crops	6%	6%	88%
Organic livestock	9%	10%	81%

5.1.8 Organic enterprises

Overall, 6% of the sample had organic crops and 9% had organic livestock. As some farms had both organic crops and livestock, the total proportion of farms that operated some form of organic enterprise was 10%.

Table 5.5 shows the types of farms that operated organic enterprises, as proportions of the total organic farms in the survey.

Table 5.5 Organic Farm Types

Main Farm type	Organic
Dairy	15%
Beef	27%
Sheep	35%
Misc - Crops, Poultry, Horticulture & Other	17%
Total Organic*	N=100

***6% unspecified farm type**

5.2 Diversification

There was a range of questions concerning diversification, which as mentioned in the 'Methods of Analysis' chapter of this report may be defined as:

The development of farm-based, non-agricultural activities to help sustain the farm holding.

5.2.1 Diversification enterprises

Interviewees were presented with a list of possible generic diversification enterprises and asked whether or not they currently operated them. In gross terms, 50% of the sample operated at least one of the diversified enterprises. Table 5.6 provides a breakdown of these results.

Table 5.6 Operation of diversified enterprises

	Operate	Do not Operate
Agricultural services (e.g. contracting)	21%	79%
Farm-based food processing	4%	96%
Farm-based food retailing (e.g. farm shop)	5%	95%
Non-agricultural contracting	9%	91%
Farm-based accommodation (e.g. B & B, self-catering)	10%	90%
Equine (e.g. livery, grazing, riding trails, riding lessons)	7%	93%
Other Farm based leisure (sports, open farms)	4%	96%
Leasing of buildings	5%	95%
Leasing of land – Agricultural use	8%	92%
Leasing of land – Non-agricultural use e.g. renewable energy projects	2%	98%
Others	8%	92%

Just over one fifth (21%) of all interviewees stated that they were engaged in providing agricultural services, such as contracting, and a further 10% provided farm-based accommodation.

Other diversified enterprises being operated by individuals and small numbers of survey interviewees included forestry (including the production of firewood); wind farms and turbines; caravan sites; leasing land for telecommunications masts; boarding kennels; contract sheep shearing; dog breeding; labour exchange trading schemes [LETS]; shooting; riparian leasing; feed merchants; the registered use of farms for film making; tractor repairs; special needs projects; and a range of courses for rural-based activities such as hedge-laying, thatching, willow work, shepherding, cob building and coracle making.

5.2.2 Plans for diversification

When asked if they were likely to undertake more diversified activities over the next five years, 30% considered it to be likely or highly likely. The breakdown of responses is shown at Table 5.7.

Table 5.7 Expansion of diversified enterprises

Response	
Highly likely	9%
Likely	21%
Not likely	22%
Highly unlikely	22%
Not at all	26%

In addition to those already in operation and listed above, planned diversified activities included hydro-electricity and other renewable energy projects.

5.2.3 Barriers to Diversification

For those interviewees likely to expand or increase their diversified activities, the principal perceived barriers are shown at Table 5.8.

Table 5.8 Principal perceived barriers to diversification for those planning to increase diversification

Barrier	Proportion of interviewees of those planning to increase diversification [10]
Inadequate information	7%
Inadequate advice and support	10%
Financial return	16%
Farm personnel capacity	7%
Training	4%
Legislation	32%
Planning permission	9%

Interviewees provided a range of reasons for not undertaking more diversified activities. These included the cost of insurance; poor financial returns; potential problems with employing and managing new personnel; a belief in the importance of food production; potential failure to achieve a necessary interdependence between a strong farm operation and successful diversification; and inertia:

I'm just stuck in my ways, I just plod on.

Other comments from interviewees included:

I'm not willing to commit capital on uncertain enterprises when things are going well with my current enterprises.

Don't like messing about with the general public.

The opportunities don't arise out in the countryside. Once one person in the area has taken on a bed and breakfast business, it's not worth many others doing it. The same goes for livery.

[10] Multiple answers allowed.

I can't do anything until we know what we need to know and what is going to happen to farming.

I don't want to hire staff.

I don't think there's going to be a need for diversification, as I believe that with population growth expanding as fast as it is, food will become scarce so therefore there will be no need to diversify.

We would have to employ more people and we don't really want to do that as it is a family farm.

We hear so much about diversification today, I think it's a saturated market.

Management agreement - we are so limited on what we can do.

If you convert farm buildings it is not considered as farming so the tax rate goes out of the farm business for holiday letting and things like that.

We tried different things in the past. we did have a farm shop and went to the farmer's market - tried all that and couldn't do everything and look after the farm - unless we had a farm manager.

Once bitten, twice shy.

There's already a lot of it around. There's so much diversification now that not many people are making a return from it because the market becomes saturated.

Glastir is still in the air and we're still tied into Tir Gofal, and until we know what's going on, we can't plan to diversify more.

At the end of the day policy changes change too fast.

5.2.4 The potential importance of Diversification

Finally, in this section on diversification, interviewees were asked two questions on what they perceived to be the potential importance of diversification over the next ten years. The first question concerned the importance to their farming household and the second concerned the future of farming households in Wales. Table 5.9 shows the responses to these questions.

Table 5.9 The perceived importance of diversification over the next ten years

	Very important	Important	No opinion	Not that important	Not at all important
For your farming household	20%	22%	16%	25%	17%
For farming households in Wales	40%	41%	11%	6%	2%

Taken together, the data show that 50% of farming households in the sample operated some type of diversification enterprise. In addition, 30% are likely or highly likely to expand their diversification enterprises. With regard to the perceived future importance of diversification, there was a degree of ambiguity. As Table 5.9 indicates, some farmers appeared to consider diversification to have greater potential importance for farming households across Wales than for their own farming household.

5.3 Agri-environmental schemes

5.3.1 Enrolment in agri-environmental schemes

The first question of a series concerning agri-environmental schemes asked whether or not farms were or ever had been entered in a scheme: 60% of interviewees answered in the affirmative, which represented 609 farms. Table 5.10 provides a breakdown by farm size.

Table 5.10 Entry in agri-environmental schemes by farm size

Total	Very small	Small	Medium	Large/ Very large
1009	317	361	201	130
60%	49%	67%	67%	60%

Those interviewees who were or had been in an agri-environmental scheme were then asked which, of the principal schemes, they were entered in. Table 5.11 shows these results.

Table 5.11 entry in agri-environmental schemes of those who have ever been in a scheme

Scheme	Currently	Used to be	Never
Tir Mynydd	64%	5%	31%
Tir Cynnal	35%	4%	61%
Tir Gofal	33%	4%	63%
Organic Farming scheme	11%	2%	87%
Better Woodlands Wales	6%	3%	91%

In addition, 13% had been in the ESA scheme; 3% were in an SSSI; and 4% were in Tyr Cymen.

Table 5.12 shows the entry to these agri-environmental schemes by each farm size category, as a proportion of the total sample for each farm size.

Table 5.12 Current entry in agri-environmental schemes by farm size

Scheme	Overall entry	Very small	Small	Medium	Large /Very large
	609	**154**	**243**	**134**	**78**
Tir Mynydd	64%	55%	74%	72%	40%
Tir Cynnal	36%	29%	36%	40%	39%
Tir Gofal	34%	33%	32%	39%	32%
Organic farming scheme	12%	11%	11%	14%	10%
Better Wood-lands Wales	6%	5%	5%	8%	4%

5.3.2 The importance of agri-environmental scheme payments

Table 5.13 shows the importance that those farming households in receipt of agri-environmental payments attached to them.

Table 5.13 The importance of agri-environmental scheme payments by farm size

	Total	Very small	Small	Medium	Large /Very large
	609	**154**	**243**	**134**	**78**
Very important	61%	58%	63%	72%	41%
Important	28%	27%	26%	24%	44%
No opinion	3%	3%	4%	0%	4%
Not that important	7%	11%	6%	3%	9%
Not at all important	1%	1%	1%	1%	2%

These results appear to be consistent across all farm sizes, with relatively small proportions in each farm size regarding agri-environmental payments as not important. The result that stands out is that 11%, of very small farms in receipt of payments considered them to be 'not that important'. This represented the greatest proportion of all farm sizes holding this opinion. Taken together 20% of very small and small farms considered agri-environmental payments to be 'Not that important' or 'Not at all important'. This compared to 15% of the combined totals of medium, large and very large farms.

5.3.3 Barriers and obstacles associated with agri-environmental schemes

The principal barrier or obstacle for interviewees with regard to agri-environmental schemes was Regulations/Red tape, which was cited by 67%. Other barriers or obstacles cited by relatively high proportions of interviewees were conflicts with the core business (10%); administration costs (6%); financial returns (5%); and inadequate advice and support (4%).

Comments by interviewees reflected the barriers identified. More specifically, there were references to a lack of expertise by scheme advisors;perceptions that some Tir Gofal personnel tended to be officious; a lack of confidence that payments would be made; and the cost of additional fencing required for Tir Gofal.

5.3.4 Glastir

Interviewees were asked whether or not they were aware of Glastir, the new agri-environmental scheme under development: 84% were aware of the new scheme. Table 5.14 shows awareness of Glastir by farm type.

Table 5.14 Awareness of Glastir and farm type

	Yes	No
Dairy	86%	14%
Beef	85%	15%
Sheep	88%	12%
Misc - Crops, Poultry, Horticulture & Other	64%	36%
Overall	84%	16%

The principal farms types, dairy, beef and sheep, were all close to the overall proportions of awareness. However, awareness of Glastir was limited among the miscellaneous types of farms.

Table 5.15 shows awareness of Glastir by principal source of income.

Table 5.15 Awareness of Glastir and source of income

	Yes	No
Market Place	86%	14%
SFP	92%	8%
Agri-env scheme & LFA	90%*	11%*
Diversification	69%	31%
Other off farm jobs	77%	23%
Mixed Income Source	89%	11%
Total	85%	16%

* Low numbers

From Table 5.15, those farming households that nominated 'diversification' as their principal source of income had the highest proportions (31%) unaware of Glastir. Farming households that nominated 'other off farm jobs' were also high at 23% unaware. These results chime with the identification above of 'miscellaneous type' farms as the most unaware of Glastir.

Table 5.16 shows the likelihood of those interviewees aware of Glastir enrolling when the scheme opens.

Table 5.16 The likelihood of enrolling in Glastir by farm size

	Total	Very small	Small	Medium	Large /Very large
Aware of Glastir	848	240	318	183	107
Highly likely	36%	27%	42%	39%	32%
Likely	14%	10%	14%	16%	18%
Not likely	5%	9%	4%	5%	5%
Highly unlikely	8%	18%	4%	4%	5%
Need more information	37%	36%	36%	36%	40%

These results show that in three of the four size categories of farm, 50% or more of interviewees said that they would be 'highly likely' or 'likely' to enrol in Glastir. The exception was in the 'very small' category, where 37% were 'highly likely' or 'likely' to enrol. While the proportions 'not likely' or 'highly unlikely' to enrol were relatively low, ranging from 8% to 13%, the 'very small' category again stood out registering a combined total of 27%.

It may be inferred that 'very small' farms are less likely to enrol in Glastir. This chimes with the results at Table 5.10, which shows that 'very small' farms had the smallest proportion of farms enrolled in agri-environmental schemes.

Table 5.17 shows the likelihood of enrolling in Glastir by farm type.

Table 5.17 The likelihood of enrolling in Glastir by farm type

	Highly likely	Likely	Not likely	Highly unlikely	Need more information
Dairy	26%	21%	8%	6%	39%
Beef	32%	13%	6%	8%	40%
Sheep	46%	12%	4%	6%	33%
Misc - Crops, Poultry, Horticulture & Other	21%	13%	8%	21%	36%
Total	36%	14%	6%	8%	37%

From Table 5.17, sheep farms were the farm type most likely to enrol in Glastir. The miscellaneous types of farm were the least likely, with the lowest proportions of 'likely' and 'highly likely'; the highest proportions of 'not likely'; and, at 21%, considerably higher proportions of 'highly unlikely'.

The proportions of farming households that required more information were consistent across both farm sizes and farm types - in the range 36% to 40%.

Table 5.18 shows the likelihood of enrolling in Glastir by the principal source of income of farming households.

Table 5.18 The likelihood of enrolling in Glastir by principal source of income

	Highly likely	Likely	Not likely	Highly unlikely	Need more information
Market Place	35%	13%	5%	7%	39%
SFP	43%	16%	4%	4%	33%
Agri-env scheme & LFA	71%*	0%*	0%*	0%*	29%*
Diversification	25%	10%	6%	14%	45%
Other off farm jobs	33%	14%	10%	17%	26%
Mixed Income Source	30%	18%	3%	7%	42%
Total	36%	14%	6%	8%	37%

*N=19 (Small Number)

Discounting those farming households that nominated Agri-environmental schemes, because of the low numbers, households that nominated SFP were the most likely to enrol in Glastir. Those households with 'mixed income sources' were the least likely to enrol. At 45% and 42% respectively, high proportions of those households with 'diversification' and 'mixed income sources' required more information about Glastir.

5.3.5 Environmental Conservation

Table 5.19 shows how important interviewees considered it to be for the future of their farming household that they embraced environmental conservation. The results are broken down by farm size. All interviewees answered this question.

Table 5.19 The perceived importance of environmental conservation for farming households by farm size

	Total	Very small	Small	Med-ium	Large /Very large
Very important	32%	38%	31%	26%	27%
Important	43%	37%	44%	49%	46%
No opinion	11%	10%	12%	11%	12%
Not that important	12%	11%	12%	11%	14%
Not at all important	2%	4%	1%	3%	1%

The proportions who considered environmental conservation to be 'very important' or 'important' were consistent across farm sizes - in the range 73% to 75%.

5.3.6 Food Quality

Table 5.20 shows the responses to a question that concerned the importance of producing food of the highest quality.

Table 5.20 The perceived importance of producing food of the highest quality

	Total	Very small	Small	Med-ium	Large /Very large
Very important	80%	71%	83%	84%	89%
Important	14%	16%	14%	16%	9%
No opinion	4%	10%	2%	0%	1%
Not that important	1%	2%	1%	0%	1%
Not at all important	1%	1%	0%	0%	0%

Agreement with the importance of quality food production was consistently high across three of the farm sizes – in the range 94% to 100%. However, 'very small farms' was lower at 87%, with a relatively high proportion of 10% holding 'no opinion.

5.4 Market orientation

Interviewees were asked questions that related to their market orientation; their strategies; and the ways that they conducted business.

5.4.1 Potential reduction in the Single Farm Payment

Table 5.21 shows the responses when interviewees were asked their intentions in the case of a potential reduction in the Single Farm Payment.

Table 5.21 Intentions if the single farm payment is reduced

	Highly likely	Likely	Not likely	Highly unlikely	Don't know
Change my type of farming	14%	16%	25%	27%	18%
Expand existing agricultural operations	6%	17%	31%	34%	12%
Expand existing diversification	7%	18%	23%	24%	28%
Start new diversification activities	7%	26%	28%	30%	9%
Leave farming	9%	18%	23%	39%	11%

Given the counterfactual (what if) nature of the question, the proportions of interviewees who answered 'don't know' to the scenarios offered were relatively low, apart from the option to 'expand existing diversification', which elicited 28% of 'don't knows'. However, for each of the scenarios the proportions of interviewees who responded 'not likely' and 'highly unlikely' were considerably greater than 'highly likely' and 'likely'.

In general, it may be inferred that most interviewees were not given to change or adapt their farming activities. More specifically:

- Fewer than one in three would change their type of farming (30%)
- Slightly more than one in five would expand their existing agricultural operations (23%)
- One in four would expand their existing diversification activities (25%)
- One in three would start new diversification activities (33%)
- Slightly over one in four would leave farming (27%)

The last outline statistic above reveals the commitment of farmers to farming: 62% would be 'not likely' or 'highly unlikely' to leave farming.

5.4.2 Business Plans

Table 5.22 shows the proportions of farming households, by farm size category, who had a business plan for: (a) their core farm business and (b) their diversified activities. This is followed by Table 5.18, which indicates the importance that the surveyed farming households attached to a business plan.

Table 5.22 Using a business plan by farm size

	Total	Very small	Small	Medium	Large/ Very large	Not Applicable
Have a Business plan for farm	19%	14%	18%	22%	29%	-
Have a Business Plan for Diversified activities	8%	9%	7%	7%	9%	38%

Table 5.22 shows that, overall, less than one in five farming households surveyed had a business plan for their farm business. The likelihood of a business plan tended to increase with the size of the farm.

With a relatively high proportion of farms (38%) not having diversified activities, the use of a business plan for diversified activities was correspondingly low, at less than one in ten farming households.

Table 5.23 The importance of a business plan

Response	Overall
Very important	20%
Important	34%
No opinion	10%
Not that important	27%
Not at all important	9%

With regard to how the importance of a business plan was perceived, Table 5.23 shows the overall figures, with 54% considering a business plan to be 'very important' or 'important'. The results by farm size show that, as with using a business plan, perceptions of its importance tended to increase with farm size – taken together approximately 53% of 'very small' and 'small' farms considered a business plan to be 'very important' or 'important', compared to 65% of 'Large/Very large' farms. However, overall, the results indicate a degree of cognitive dissonance: far larger proportions of interviewees considered a business plan to be 'very important' or 'important' than actually used one.

5.4.3 Collaborative and cooperative schemes, and networks

Of the 1009 interviewees, 129 (13%) were involved with collaborative or cooperative schemes with other farmers. The proportions of involved farming households increased by farm size, as shown by Table 5.24.

Table 5.24 Farming households in collaborative and cooperative schemes by farm size

Overall	Very small	Small	Medium	Large/Very large
13%	9%	10%	16%	25%

Table 5.25 shows the types of schemes that farming households were in.

Table 5.25 Types of collaborative and cooperative schemes by farm size (Base: those in a scheme)

	Overall	Very small	Small	Medium	Large/Very large
Milk	12%	4%	0%	3%	39%
Potatoes	1%	4%	0%	0%	0%
Crops	4%	4%	6%	3%	3%
Meat	23%	21%	25%	22%	21%
Machinery ring	23%	32%	28%	22%	12%
Fertilizer buying	8%	0%	3%	9%	18%
Feed buying	14%	0%	11%	16%	27%
Discussion groups	4%	0%	3%	6%	6%

Machinery rings and meat schemes appeared to be the most popular, with relatively large proportions across the farm sizes. A large proportion of 'large/very large' farms participated in milk schemes.

Interviewees mentioned a number of other schemes. These included a buying group for vaccines; growers associations; Celtic pride; organic produce schemes; and an alternative energy cooperative.

In general, schemes were found to be useful for farming households as Table 5.26 shows.

Table 5.26 Usefulness of collaborative and cooperative schemes (Base: those in a scheme)

Very useful	Useful	No opinion	Not useful	Not at all useful
58%	32%	4%	3%	3%

Table 5.27 shows how useful farming households found a range of networks that they might be involved with.

Table 5.27 Usefulness of networks (Base: all interviewees)

	Very useful	Useful	No opinion	Not useful	Not at all useful
Farmers networks[11]	16%	37%	30%	11%	6%
Family and friends	48%	37%	5%	7%	3%
Customer networks	15%	32%	37%	12%	4%
Suppliers networks	18%	40%	29%	9%	4%

5.5 Support and advice

5.5.1 Accessing advice

Support and advice are available to farming households from a number of sources. Of the 1009 farming households sampled, 549 (54%) had, at some point, accessed business or technical advice. These results are shown at Table 5.28, with a breakdown by farm size of farming households that have accessed advice.

[11] e.g. Agriscop, Farming Connect

Table 5.28 Farms that have accessed advice by farm size

	Overall	Very small	Small	Medium	Large/Very large
Total sample	1009	317	361	201	130
Farms that have sought advice	549 (54%)	138 (44%)	184 (51%)	126 (63%)	101 (78%)

Table 5.29 shows the types of advice accessed by the different sizes of farm. Note that interviewees were offered the titles of the sources of advice.

Table 5.29 Types of Support and Advice (Base: farms that have accessed advice)

	Overall	Very small	Small	Medium	Large/Very large
Single application form (IACS)	53%	44%	55%	52%	62%
Tir Gofal application	34%	30%	38%	37%	27%
Tir Cynnal application	24%	15%	28%	30%	23%
Better Woodlands	12%	15%	14%	9%	9%
Organic farming	20%	26%	17%	22%	13%
Farming Connect	58%	40%	55%	72%	71%
Planning application	35%	32%	36%	33%	42%
Farm Technical Improvements	41%	25%	33%	49%	66%
Farm Business Improvements	45%	28%	45%	53%	60%

In the cases of IACS, Farming Connect, Farm Technical Improvements and Farm Business Improvements there appeared to be a trend for farms at the larger end of the spectrum to seek advice and support. This trend was reversed for Better Woodlands and Organic Farming, although proportions seeking advice from these categories were relatively small.

5.5.2 Rating Advice and Support

All 1009 interviewees were asked to rate the support and advice available from a wider range of sources. Table 5.30 shows these ratings.

Table 5.30 Rating advice and support

	Very good	Good	Acceptable	Poor	Very poor	I have not been in contact	I am not aware of this service
Farming Connect	16%	24%	11%	2%	2%	41%	4%
Farming Unions	27%	28%	16%	6%	2%	20%	1%
CLA	6%	11%	7%	3%	2%	66%	5%
CCW	6%	9%	6%	4%	3%	58%	14%
FWAG	6%	12%	6%	2%	1%	50%	23%
Private sector advisory bodies e.g. ADAS	8%	15%	7%	2%	1%	60%	7%
Forestry Commission	4%	9%	5%	2%	2%	76%	2%
GWLAD	30%	36%	12%	2%	2%	14%	4%
Veterinary services	49%	35%	7%	1%	0%	8%	0%
Animal Health	23%	33%	15%	3%	1%	23%	2%
Local Authorities	9%	22%	20%	9%	7%	32%	1%

While there was no discernible pattern or trend in these results, they stand on their own for each case, the proportions for 'I have not been in contact' were relatively high, as were those for 'I am not aware of this service' in some cases. The veterinary services received noticeably high approval ratings.

Other sources of support and advice cited by interviewees included the Soil Association, the Environment Agency, the RSPB, banks, accountants, WAG and a range of subject and locally specific interest groups.

5.6 Skills and Information Technology

5.6.1 Computer use for business

There was a range of questions aimed at assessing how connected farming households were in terms of computer use, the Internet and information technology skills. The tables below display these results.

Table 5.31 Computer use for business

Farm size	Overall	Very small	Small	Medium	Large /Very large
Sample	1009	317	361	201	130
Use a computer for business	65%	55%	58%	77%	88%

There was a direct correlation between farm size and the use of a computer for business. Just over half of 'very small' and 'small' farms surveyed used a computer, compared to considerably larger proportions of the 'medium' and the 'large/very' large farms.

Table 5.32 Perceptions of the importance of computing skills by farm size

	Overall	Very small	Small	Medium	Large/Very large
Very important	51%	46%	45%	58%	66%
Important	27%	22%	30%	28%	28%
No opinion	4%	6%	5%	3%	1%
Not that important	12%	15%	13%	8%	4%
Not at all important	7%	11%	7%	3%	1%

More than one in five interviewees in the 'very small' and 'small' farm categories considered that computing skills were not important. In the larger categories only small proportions held this opinion.

Table 5.33 Internet connections

Farm size	Overall	Very small	Small	Medium	Large/Very large
Sample	1009	317	361	201	130
Connected to the Internet	80%	79%	73%	87%	88%

Table 5.34 Use Internet for business

Farm size	Overall	Very small	Small	Medium	Large/Very large
Connected to the Internet	805	251	264	176	114
Use the Internet for business	78%	72%	75%	83%	91%

5.6.2 Broadband access and use

The 805 farming households that had access to the Internet were asked whether or not they were connected to Broadband: 659 (82%) were connected and 18% were not connected.

Those 274 farming households that were not connected to the Internet were asked whether or not Broadband access was available at their farm premises: 112 (41%) had access, and 59% did not have access.

5.6.3 The perceived importance of Broadband

All 1009 farming households were asked how important they considered Broadband to be for the future of their business enterprises. Table 5.35 shows these results.

Table 5.35 The Importance of Broadband

	Very important	Important	No opinion	Not that important	Not at all important
Overall	46%	28%	8%	11%	7%

For those interviewees who considered Broadband to 'very important' or 'important' for the future of their business enterprises, there was a range of 67% to 87%, with perceptions of Broadband's importance rising with farm size. This gradient was reflected by those who considered Broadband 'not that important' or 'not at all important': one in four 'very small farms' held these opinions compared with one in twenty 'large/very large' farms.

5.6.4 On-line access to agricultural forms

If on-line access to agricultural forms was available, 70% of all interviewees would consider using it.

5.6.5 Educational qualifications

Interviewees were asked for their highest educational qualification. These are show at Table 5.36.

Table 5.36 Qualifications held

Qualification	Sample: 1009
National Diploma	9%
HNC/HND	6%
A levels	5%
O levels/CSE/GCSE	21%
First Degree (e.g. BA, BSc)	11%
Professional qualification	6%
Higher degree (e.g. MA, MSc, PhD)	4%
NVQ Level 1-5	3%
City and Guilds	3%
No qualifications	32%

5.7 Succession

Succession is an important consideration for farming households and for the bng-term sustainability of farming in Wales. Table 5.37 shows the age ranges of interviewees and the proportions that had a likely successor. To reiterate, the interviews were conducted with the principal decision-maker of the farming household.

With regard to gender, 26% of interviewees were female and 74% were male.

Table 5.37 Age range of interviewees

Age of interviewee	Count	Proportion of sample	Count with succession plans	Proportion of age group with succession plans
18 – 24	3	<1%	2	66%
26 – 34	29	3%	12	41%
35 – 44	100	12%	68	68%
45 – 54	261	28%	149	57%
55 – 64	284	31%	153	54%
65 or older	238	25%	161	68%

Please note that interviewee numbers in the younger two categories were low; consequently, proportions were high. Overall, of the farming households sampled, 60% had a likely successor to the farm, while 47% had family succession plans.

These results point to an ageing and predominantly male population of farmers, with a considerable proportion without succession plans.

By comparison, data from the Wales Rural Observatory Business Survey indicate that in terms of gender, 79% of business owners were male and 21% were female. With regard to age, 10% were under 40 and 17% over 65. The majority of owners in the Business Survey, at 71%, were between 40 to 64 years. [12]

The age profile of the farming interviewees tended, then, to be similar with 71% between 35 and 64. But 25% were over 65.

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5.8 Income profile

Income is, of course, a sensitive subject. Interviewees were assured that all data would be confidential and anonymous. These assurances elicited a good response and only 113 (approximately 12%) of the 1009 interviewees declined to answer the turnover and gross income questions.

While the questions in this section were designed to provide an indication of the range of income and turnover of the farming households surveyed, in addition, interviewees were asked to indicate the sectors from which incomes were drawn and their relative dependency on those sources of income. Only nine of the 1009 interviewees declined to answer this question.

5.8.1 Annual turnover by farm size and farm type

Table 5.38 and Table 5.39 show the annual turnover of the core farming business, cross-tabulated with farm size and farm type respectively.

[12] Wales Rural Observatory (2008) Rural Business Survey.

Table 5.38 Annual turnover of the core farming business and farm size

Annual Turnover (£ s)	Overall	Very small	Small	Medium	Large/Very large
	896	280	320	178	118
Less than 25,000	38%	82%	31%	4%	1%
25, 000 – 67,999	22%	13%	38%	20%	6%
68,000 – 99,999	9%	1%	16%	14%	7%
100,000 – 149,999	14%	1%	9%	41%	13%
150,000 – 199,999	6%	1%	2%	13%	15%
200,000 – 249,999	4%	1%	2%	5%	13%
250,000 – 499,999	5%	0%	1%	2%	32%
500,000 or more	2%	1%	1%	1%	13%

Table 5.39 Annual turnover of the core farming business and farm type

Farm type	Less than £25,000	£25,000 -67,999	£68,000 -99,999	£100,000 -149,999	£150,000 -199,999	£200,000 -249,999	£250,000 -499,999	£500,000 or more
Dairy	7%	14%	8%	25%	13%	9%	18%	8%
Beef	41%	28%	11%	12%	6%	1%	1%	1%
Sheep	42%	25%	9%	14%	4%	3%	2%	0%
Misc - Crops, Poultry, Horticulture & Other	61%	12%	8%	4%	4%	5%	4%	3%
Total	38%	22%	10%	14%	6%	4%	5%	2%

5.8.2 Gross annual income of the farming family household by farm size and farm type

The question asked for income from all sources coming into the household, before tax and other deductions. Table 5.40 and Table 5.41 show the results by farm size and farm type respectively.

Table 5.40 Gross income of the farming family household and farm size

Gross Annual Income (£s)	Overall	Very small	Small	Medium	Large/Very large
	875	280	323	166	106
Less than 10,000	18%	17%	23%	17%	8%
10, 000 – 15,499	17%	17%	21%	14%	14%
15,500 – 20,999	16%	19%	15%	14%	14%
21,000 – 30,999	18%	17%	19%	20%	17%
31,000 – 51,999	17%	19%	12%	19%	22%
52,000 – 77,999	8%	6%	7%	8%	13%
78,000 or more	6%	5%	3%	8%	12%

Table 5.41 Gross income of the farming family household and farm type

Farm type	Less than £10, 000	£10,000 -15,499	£15,500 -20,999	£21,000 -30,999	£31,000 -51,999	£52,000 -77,999	£78,000 or more
Dairy	14%	16%	12%	14%	24%	10%	11%
Beef	23%	18%	15%	20%	12%	6%	6%
Sheep	18%	19%	17%	19%	16%	8%	4%
Misc - Crops, Poultry, Horticulture & Other	13%	9%	21%	17%	23%	7%	9%
Total	18%	17%	16%	18%	17%	8%	6%

The tables for turnover and income show larger farms tended to do better in terms of both turnover and income. With regard to farm types, dairy farms tended to have the largest turnover and annual incomes.

5.8.3 Current sources of household income

Table 5.42 ranks, in order of importance, the sources of income for the farming households surveyed.

Table 5.42 Current sources of income in order of importance

Income Source	Rank	Weighted this source first *
The market place	1	50%
Other household members' off-farm employment	2	15%
Single Farm Payment	3	14%
Diversification	4	7%
Agri-environmental schemes	5	2%

*108 respondents (11%) gave equal weight to more than one income source. 92% of these included Single Farm Payment.

The market place was perceived to be the most important current source of income for the majority of farming households surveyed. However, there were considerable proportions of households that had a strong dependency on the Single Farm Payment and on the non-farm incomes of household members.

Table 5.43 and Table 5.44 show the principal sources of household income by farm type and economic farm size respectively. From these tables, dairy farms had the greatest income reliance on the market, and 17% of both beef farms and sheep farms depended on the SFP as their primary income source. Miscellaneous type farms had the greatest proportion of farms that perceived diversification to be their primary source of income.

In terms of economic farm size, as farms increased in size they tended to have more reliance on the market for income. Very small farms had the greatest proportion with diversification as their primary income source.

An important point with regard to the SFP, which is discussed further in the Summary and Conclusions (Footnote 16 and 'Dependency on the SFP) is that FBS data shown at Table 2.6 indicate a greater dependence on the SFP than that perceived by interviewees to this farming household survey.

Table 5.43 Principal sources of household income by farm type

	Market Place	SFP	Agri-env scheme & LFA**	Diversification	Other off farm jobs	Mixed Income Source
Dairy	80%	9%	1%	1%	4%	4%
Beef	49%	17%	2%	4%	16%	12%
Sheep	45%	17%	2%	5%	16%	15%
Misc – Crops, Poultry, Horticulture & Other	28%	5%	0%	29%	31%	6%
Total	50%	14%	2%	7%	15%	11%

** Low numbers N= 19

Table 5.44 Principal sources of household income by farm size

	Market Place	SFP	Agri-env scheme & LFA**	Diversification	Other off farm jobs	Mixed Income Source
Very Small	23%	11%	3%	15%	39%	9%
Small	55%	16%	1%	5%	7%	15%
Medium	67%	16%	3%	1%	2%	11%
Large / Very Large	76%	12%		5%	2%	6%
Total	50%	14%	2%	7%	15%	11%

** Low numbers N= 19

5.8.4 Future sources of household income

Interviewees were also asked which source of income they considered would be the most important for their household in the future. Table 5.45 ranks these responses and shows a breakdown by farm size.

Table 5.45 Perceived future importance of sources of income by farm size

	The market place	Single Farm Payment	Agri-environmental schemes and LFA**	Diversification	Other household members' off-farm employment
Very small	24%	17%	4%	17%	38%
Small	55%	27%	2%	9%	7%
Medium	67%	26%	1%	4%	2%
Large/Very large	73%	19%	1%	5%	2%
Total	50%	23%	2%	10%	15%

****** Low numbers N= 19

Looking forward, overall, the largest proportion of interviewees considered that the market place would remain their most important source of income. Across farm sizes, however, there was a tendency for very small farms, as a group, to place less reliance of the market place as a future source of income. Very small farms were more likely to perceive greater potential importance for income from other household members' off-farm employment and diversification than the other farm size categories. In both of these categories, perceptions of importance were in inverse proportion to the size of farm.

With regard to the Single Farm Payment, very small farms attached the least potential importance, and

large/very large farms similarly perceived low future importance for the Single Farm Payment. In contrast, relatively large proportions of small and medium farms considered that the Single Farm payment would be an important source of income in the future.

Only small proportions of interviewees considered agri-environmental schemes to be important sources of future income.

In terms of farm type (Table 5.46), dairy farms had the greatest proportions that saw the market as the future most important income source. Significant proportions of all types of farm saw the SFP as an important future source of income. Miscellaneous farm types tended to see diversification as a future source of income. Apart from dairy, the other farm types had considerable proportions that saw off-farm jobs as an important future source of income.

Table 5.46 Perceived future importance of sources of income by farm type

	Market Place	SFP	Agri-environmental schemes and LFA**	Diversification	Other off farm jobs
Dairy	76%	14%	1%	3%	6%
Beef	49%	23%	3%	7%	18%
Sheep	44%	30%	3%	8%	15%
Misc - Crops, Poultry, Horticulture & Other	28%	9%	0%	37%	26%
Total	50%	23%	2%	10%	15%

** Low numbers N= 19

5.8.5 Income from sources and work not related to the farm

Interviewers posed questions about employment, other than work related to the farm, which contributed to the farming household income. Of those people actually answering the questions, 28% had a job or ran an enterprise that was not connected to the farm or agriculture. In addition, in 36% of the farming households surveyed other members of the household had jobs or ran an enterprise that was not connected to the farm or agriculture and which contributed to the farm household income. A total of 41% of the farming households surveyed had income from sources not connected to the farm or agriculture. These data begin to address Aim 1 and Aim 2 of the project.

Table 5.47 shows the proportions of each size of farm whose total household income contained an element of 'non-farm' income.

Table 5.47 farming households receiving 'non-farm' income by size of farm

	Overall	Very small	Small	Medium	Large/Very large
Total	**1009**	**317**	**361**	**201**	**130**
'Non-farm' income	415	176	142	63	34
	41%	56%	39%	31%	26%

Table 5.48 shows the proportions of each farm type whose total household income contained an element of 'non-farm' income.

Table 5.48 Farming households receiving 'non-farm' income by farm type

	Yes	No
Dairy	33%	67%
Beef	44%	56%
Sheep	43%	57%
Misc - Crops, Poultry, Horticulture & Other	47%	53%
Total	41%	59%

5.8.6 The importance of non-farm income

From Table 5.45, of the total surveyed, 15% considered that 'non-farm' income would be the most important source for the farming household in the future. Greater proportions of very small farms, and to lesser extent small farms, had 'non-farm' household income streams. In addition, very small farms were more likely to consider that 'non-farm' income would be the most important to them in the future. The importance attached to 'non-farm' incomes diminished with increasing farm size.

5.8.7 Income Effects of LFA

Table 5.49 shows a breakdown of income bands, for those 875 farming households that answered the income question, against LFA. The table shows that farming households in an LFA were disproportionately represented in the lower income bands. That is, farming households in LFAs tended to have lower incomes.

Table 5.49 Effect of LFA on gross household income

Annual Income	Non LFA	LFA	Survey Total
Less than £10, 000	21%	79%	160
£10,000 - 15,499	19%	81%	151
£15,500 - 20,999	21%	79%	139
£21,000 - 30,999	17%	83%	161
£31,000 - 51,999	27%	73%	146
£52,000 - 77,999	23%	77%	66
£78,000 or more	31%	69%	52
Expected proportion	**22%**	**78%**	875

Similarly, Table 5.50 illustrates the effects of a farming households being in an LFA on the reported turnover of farming households from their farming enterprises. Note that in this case, because of small numbers in some bands, some turnover bands have been grouped together.

Table 5.50 Effect of LFA on farm enterprise turnover

Annual Turnover	Non LFA	LFA	Survey Total
Less than £25,000	19%	81%	**338**
£25,000 - 67,999	22%	78%	**200**
£68,000 -£149,999	22%	78%	**209**
£150,000 +	32%	68%	**149**
Expected proportion	**22%**	**78%**	**896**

Again, households not in an LFA were under-represented in the lowest band. The middle two bands performed as predicted. However, for the highest band of turnover, farming households not in an LFA far outperformed those households in an LFA.

5.8.8 Multiple Income sources and LFA

Table 5.51 shows the proportions of farming households with multiple sources of income that were not in an LFA compared to the proportions of farming households with multiple sources of income that were in an LFA.

Table 5.51 Multiple Income Sources and LFA

No of Income Sources	1	2	3	4	5
Not in LFA	6%	33%	30%	24%	7%
In LFA	6%	21%	36%	29%	8%

NB. The bases for this table were calculated as follows:

Not in LFA - Total count (226) – None responses (9) = 217

In LFA – Total count (783) – None responses (30) = 753

Table 5.51 shows that being in an LFA did not appear to have a significant or consistent bearing on whether or not a farming household had multiple income streams, or on the number of those income streams. Two results stand out. First, that equal proportions of Non-LFA and LFA farms had single income streams. Second, that 11% more Non-LFA farms had two income streams.

5.8.9 Off farm incomes and LFA

In terms of 'off farm incomes', 77% of the farming households receiving off farm incomes were in a designated LFA.

KEY FINDINGS

Project Aim 1 - Identify household income streams

60% were or had been in an agri-environmental scheme

67% cited Regulations/Red tape as barriers to joining an agri-environmental scheme

41% had non-farm sources of income

78% were in a designated LFA

LFA status had an adverse effect on incomes

38% had annual turnover of less than £25,000

18% had a gross annual household income of less than £10,000

14% considered the SFP to be a principal source of their current income

23% perceived SFP to be their principal income source in the future

Aim2 - The extent of diversification and multiple jobs

90% did not employ non-family members

50% operated at least one of the diversified activities in the questionnaire

30% were likely to undertake more diversified activities over the next five years

10% operated some form of organic enterprise

Aim 3 - Outline possible responses to CAP reform, and explore behavioural attitudes

16% overall were not aware of Glastir

42% overall were 'highly likely' or 'likely' to enrol in Glastir

36% of 'miscellaneous type' farms were not aware of Glastir

Of those 'miscellaneous type' farms aware of Glastir, 29% were unlikely to enrol

If SFP was reduced: 52% were 'not likely' or 'highly unlikely' to change their farming operations.

Aim 4 - Establish household resilience and vulnerability with regard to CAP reform

If SFP was reduced: 27% were 'highly likely' or 'likely' to leave farming

60% had a likely successor to the farm

47% had family succession plans

General Key Findings

74% of farms were family owned

26% of interviewees were female and 74% were male. NB. Interviewers asked to speak with the business decision-maker of the farming household.

19% had a business plan for their farming activities

54% had sought advice

65% used a computer for business

80% were connected to the Internet

SECTION 6 QUALITATIVE ANALYSIS

6.1 Introduction

As indicated in Section 4.4, 'Methods for Analysis', Aim Three of the project required qualitative research. Aim Three called for an outline of responses to potential CAP reform, and an exploration of behavioural attitudes. To address this aim, interviewees were asked two specific questions that posed distinctive scenarios. These questions are reproduced below:

Question 21.

If, after 2013, policy changes result in reduced payments to farmers or require changes to farming practices, such as increased environmental responsibilities, what would you do?

Question 22.

If input costs continue to rise but farm gate prices fall, what will you do over the next five years?

The interviewers recorded verbatim responses to these questions. Researchers studied these responses and coded them as shown below. Note that a response might contain elements of more than one code. Researchers had to make a judgment on the most appropriate code. An important methodological point is that the responses were post-coded. That is, the codes arose from the open-ended responses of interviewees.

6.2 Codes for Question 21

The codes for strategies to address potential policy changes and increased environmental responsibilities (Question 21) were:

1. Carry on business as usual.
2. Uncertainty – not sure what to do.
3. Take on or adapt to more environmental responsibilities:
    - 3a: proactively
    - 3b reluctantly
4. Diversify/multifunctional/ multiple incomes.
5. Intensify the farm business/scale enlargement
6. De-intensify/downsize the farm business
7. Exit farming:
    - 7a Retire
    - 7b Sell up

6.3 Codes for question 22

The codes for strategies to address a potential cost price squeeze (Question 22) were:

1. Carry on business as usual
2. Cut costs (i.e. farm more economically)
3. Uncertainty – not sure what to do.
4. Farm more environmentally
5. Diversify/multifunctional (outside farming)
6. Diversify/multifunctional (inside farming)
7. Intensify/scale enlargement
8. De-intensify/downsize the farm business
9. Exit farming:
    - 9a Retire
    - 9b Sell up.

From the coding new variables were developed, which were cross-tabulated against farm type, farm size, LFA status, income sources and the indices developed earlier in the analysis: multifunctionality, diversification and entrepreneurship.

6.4 Response rate

Only one interviewee failed to respond to the two qualitative questions. This means that 1008 of a possible 1009 responses were received for each of the two questions – essentially a response rate of 100%.

6.5 Quality of the responses

The responses varied in both quality and length. A few were concise to the point of brevity. These respondents tended to answer the questions and not elaborate, even allowing for probing by the interviewer. Other respondents gave full, detailed, answers and then digressed into other aspects of farming life. All responses provided useful information.

6.6 Analysis

The analysis that follows is divided into two sections: one for each question. Responses to the question concerning potential policy changes and increased environmental responsibilities are analysed first.

6.7 Responses to potential policy changes and increased environmental responsibilities.

To reiterate, this question was:

If, after 2013, policy changes result in reduced payments to farmers or require changes to farming practices, such as increased environmental responsibilities, what would you do?

6.7.1 Frequency analysis

The first part of the analysis recorded the frequency of the codes. Table 6.1 displays these frequencies and proportions. The analysis is illustrated by appropriate quotations from the responses.

Table 6.1 Frequency of codes

Code	Frequency	Proportion of total sample
Business as usual	275	28%
Uncertainty	224	22%
Take on or adapt to more environmental responsibilities – Proactively	61	6%
Take on or adapt to more environmental responsibilities – Reluctantly	11	1%
Diversify / multifunctional / multiple incomes	40	4%
Intensify the farm business / scale enlargement	101	10%
De-intensify / downsize the farm business	153	15%
Exit farming – Retire	39	4%
Exit farming – Sell up	104	10%
Total	1008	100%

6.7.2 Carry on business as usual.

The data indicate that the largest proportion of farming households surveyed (28% or approaching one in three) did not envisage making any changes in respect of their farming business in the event of a reduction in payments or a requirement to increase their environmental responsibilities. Interviewees gave a range of reasons for carrying on with business as usual.

While some of the respondents in this category gave laconic responses to the effect – '*I'll just carry on*' – other responses suggested that farming was a struggle:

I'll still struggle on - I'll still remain on just the same policy as I have now. I'll keep on farming with my beef cows as I've always done.

Others made references to the Single Farm Payment [SFP], which revealed their attitudes to payments. These farmers treated the SFP as a bonus that potentially could be withdrawn:

I try not to think of the single farm payment. I try to work the business without accepting that as a profit. I know that will disappear soon, so if I try to continue with my business ignoring it then I treat it as a bonus.

I would carry on as I am now - as I farm the way I do and feel it is irrelevant what the payment schemes do.

Others argued that as they did not receive SFP and already farmed environmentally any changes would not affect them:

I think we run our place suitable for the environment, we don't use fertilizer or spray, so increased environmental responsibilities wouldn't have an effect and we don't currently have the single farm payment either.

Carry on as we are. I am fairly environmentally friendly already. We're not intensive so I think our farm won't be affected too much.

There was a sub-group in this category who, while not changing their farming practices, was opposed to policy changes, a perceived over-emphasis on the environment, and a consequent loss of food production capacity:

Fight against it by lobbying. If the emphasis was far, far greater on environmental conservation, rather than food production, I think the general public will see a lower amount of food and shortages of food - I would make an emphasis to the Welsh government that this is what we've been preaching for ages, and lobby against those issues about conservation. I haven't got a problem with looking after the environment, but I do when it affects food production, and it will affect my food production.

6.7.3 Uncertainty – not sure what to do.

Interviewees in the second largest category were uncertain of their response to potential changes. The majority of interviewees in this category stated, not unreasonably, that they would require more information about any changes before they could consider their position and formulate a strategy. However, some responses in this category revealed underlying issues. For example, from some responses it could be inferred that farmers perceived agri-environmental schemes as restrictions on their farming practices:

It depends what restrictions we are going to be put under to see how we deal with it.

It would depend on what the restrictive practices were.

I would probably moan a lot. The government expect us to follow too many rules and you need more man hours to make these changes happen.

The people 'above' such as the WAG and top civil servants and Europe have no idea that the regulations that they are imposing are just ridiculous and are not practical for the future of farming.

If the environmental responsibilities are too much to go into Glastir, all the environmental work we've done will be reversed - it all depends.

I don't want to tie myself with too much red tape, rules and regulations. I'd like to keep things fairly open.

And, again, some forecast a loss of food production capacity:

I don't know. But they need to stop being daft, because no one will be producing food if things continue.

If they cut the single farm payment drastically everyone will cut back and become more self sufficient, livestock will be cut back to about a quarter. The single farm payment is always spent on food production.

Some interviewees were particularly concerned about the potential loss of payments, which implied dependency:

Don't know - life could be very hard without no aid.

If we were paid proper rates for milk, the single farm payment wouldn't be so important. I don't really know what we'd be doing.

Can't manage without payments.

If it was reduced money, then most farmers would go broke. As for the environmental things, we are organic, so we are already doing it. Half all farm incomes come from the subsidies. So, as to how we would cope if it did happen, I don't know.

We couldn't live without subsidies but I don't know what I would do.

Half all farm incomes come from the subsidies, so as to how we would cope if it did happen, I don't know.

Some interviewees, one hopes only exercising a black sense of humour, alluded to suicide:

Look for a tall tree with a piece of rope. But till that happens we will see.

'Cut my throat.' I think we're drowning in environmental restrictions, which is why I won't join any environmental schemes. I have strong opinions about taking land that could be used for farming out of use.

6.7.4 Take on or adapt to more environmental responsibilities: proactively

With regard to taking on increased environmental responsibilities, there were two categories. First, at 6% of the sample, there were those termed 'proactive', who used terms such as '*embrace environmental responsibilities*'. Many of these interviewees suggested that they were already farming in an environmentally friendly way. However, although committed to environmentally friendly practices, some expressed other concerns:

Pull my hair out! It's an absolute sham. If the tax payers knew what they plough in to farmers pockets they would be in despair. The balance has gone completely out of sync. I'm very, very happy to go down environmental routes, but my conscience tells me it's an absolute waste of public money but it would make life easier for me which is fine. We can only go on having an easy life for so long until someone has to pick up the pieces and that isn't just in agriculture. It's a tragedy what is happening at the moment. There's a generation of farmers have been lost left because they have gone off in the search of jobs with less unsociable hours. I don't know who is going to want it.

I would increase my environmental responsibilities, and of course, environmental responsibilities are defined by politicians not by anybody else. So we slightly mistrust their opinion about what is environmentally responsible, I have to say.

I'd be happy to increase environmental responsibilities.

6.7.5 Take on or adapt to more environmental responsibilities: reluctantly

At 1% of the sample, there were those who would enter a scheme reluctantly or if it produced increased payments:

I'd do the bare minimum to get the maximum amount of money. Either you're an environmentalist, or an out and out farmer, I'm the latter. I'd do what I had to, to get payments from environmental schemes. But I'd do as much farming as possible. I'd look at what I could maximise, which would mean diversification if keeping stock doesn't get you payments.

Increase environmental responsibilities, if that's what it takes.

See if we can increase in the environmental side of it but if not I would have to give up without payment. I couldn't afford to go on.

Well, we'd comply. I know that with Glastir hill-farms such as ourselves will struggle compared to lower farms. Usually they are the ones nearest to a village, and we're the ones who have to travel further, increasing costs. It should be equal.

Perhaps we would go into the conservation environmental thing, but the environment doesn't provide food.

If policy changes resulted in reduced payments we would have to find some more money some where else. and if there were increased environmental responsibilities we would take on the environmental responsibilities, as long as it wasn't too much paperwork.

So long as they pay us we'll do it.

I don't mind increased responsibilities. I accept responsibilities. If they stop the money, you'll think, should I carry on the responsibility? Not going get any money for keeping the moral goodwill. If the financial support is reduced, and farmers are expected to take less payment, then they will be taking more advantage of goodwill. I'd be happy to do it for more money.

Try and make as much money from increased environmental responsibilities as possible.

Some who were considering a range of possibilities:

If there was financial gain, I would be interested in going and changing to do increased environmental responsibilities. If it made farming unprofitable, then I would consider doing something else, give up farming, or rent the ground out, or something else.

And some who were extremely concerned about the possibility of a reduction in SFP:

I am very worried about losing the Single Farm Payment. We would just have to make it up by entering the new scheme. but I am very dependent on the Single Farm Payment.

We'd have to respond to what was required, when you rely on a payment you have to adapt to meet the requirements otherwise the business doesn't survive.

6.7.6 Diversify/multifunctional/ multiple incomes.

Reflecting the relatively low proportions of farming households in the survey who had diversified, as indicated by the frequency analysis in Section 5, 4% of the sample planned to diversify or seek other forms of income, if payments were to be reduced or they had to assume more environmental responsibilities.

Some saw this possibility as a relegation of the role of farming:

It would mean diversification would be more important than the farm.

Others foresaw the necessity of finding employment outside of farming:

See how it goes, I don't know. I'll have to find a job, I'm 47 so it would be bit of a job to, but I'll have to find a job.

Try and keep farming and find some other jobs outside of farming.

While others had plans for diversification:

I'd stop claiming the single farm payment and diverse into horses. It's difficult enough now without them reducing payments.

I'd have to possibly consider changing my farming to something that would

make more money, for example taking on energy crops or something.

Maybe we would look to diversify, it wouldn't be until then, but maybe we'd have to look at something then. Probably do a farm conversion on part of the farm. There are old buildings that could be converted - that's a possibility.

I am willing to diversify. A family member may have to work outside the farm or sell things like unused buildings.

I would look into energy crops and windmills.

This interviewee was concerned for the future of small farmers:

Try other things, for example a windmill. I think they should give the little farmers grants not just the big farmers. They seem to be wanting to squeeze the little farms out.

While this interviewee wanted to diversify but was prevented by National Park regulations:

I would like to diversify into wind farm, but it is not allowed because we are in the National Park area, so I can't do anything.

6.7.7 Intensify the farm business/scale enlargement

The proportions of farmers who would respond to the proposed scenario by changing the scale of their farm business, either by increasing or decreasing operations were relatively large: 10% would opt for scale enlargement and 15% would downsize.

These quotes are from those who would consider an increase in scale:

Try and increase acreage perhaps.

Expand - I would hope I get more from the market rather than payments, I hope that would maintain our income.

We'd have to increase production some how. We'd have to consider other options off the farm if it came to that.

Hopefully to have more animals to have more income, to compensate.

Generate more money by keeping more stock.

While this interviewee did not state that he would enlarge, his response implies a positive attitude that resonates with potential expansion:

If the SFP was ended, the legislation would be gone, so I would think it would be down to me to produce a product to fit a niche market - and not be reliant on the SFP.

6.7.8 De-intensify/downsize the farm business

These interviewees, among others, would downsize in the event:

We may consider leaving or cutting back.

Probably cut the amount of animals I have.

Reduce farm activity.

Have to cut down and make cut backs on machinery- less equipment and less sheds.

Keep less stock.

We'll still be farming, have less animals.

Cut the live stock unit as well.

I'm not sure, maybe just down size the number of cattle. That may be the only answer, try to be self-sufficient. Try and not to buy more silage.

If the payments were reduced we'd have to reduce stock numbers but even then I'm not sure if the business would remain.

This respondent had planned a strategy that included the environment and adjustments to farming practice:

All dependent on what I'm getting for my lambs. If the price of lambs goes down I will get rid of sheep until it becomes profitable again because I'll be cutting on fertiliser etc. I hope that Glastir has second-level entry to do capital works. And if I get into hens and free-range eggs I will probably increase that and decrease sheep and cattle stock.

6.7.9 Exit farming: Retire

Given the increasing age profile of farmers, it was surprising that only 4% would consider retirement faced with the potential scenario of changes. Generally, interviewees in this category were approaching retirement age and would have attained it by 2013.

We will likely carry on. it is likely that I will have retired by then though.

I will be retired by then.

Tell them do what do with that! Time to retire! No point in flogging a dead horse. Depends what happens - possibly retire.

If they're shutting off payments more than they are now then people will leave farming all together, the sheep side of it is already closing down. I'd finish with it altogether. I'm coming up to retirement age now anyway.

6.7.10 Exit farming: Cease farming

However, 10% of the sample would not retire but would leave farming if they were faced with reductions in payments and increased environmental responsibilities. Some of the quotes below indicate degrees of (a) policy dependency and (b) frustration at perceived over-regulation.

Depends on the extent of the policy changes which occur, but it could possibly make me leave agriculture.

Don't know what we would do if there were more environmental responsibilities - give up.

If there is no financial support it is not possible to continue to farm in this area without the support.

If they push so much environmental regulations on us, then I will pick a job and leave farming. I can't be putting up with the agro anymore.

Leave farming because it's too much of strain and hassle.

We would look to stopping farming or diversifying substantially from where we are at the moment. we are running close to the wind as it is.
Let the farm, because if the single farm payment is gone I wouldn't be able to make a living and I don't know anyone that would.

I would have to seriously consider my position, if I couldn't get income from elsewhere I would finish.

Chuck it in. More bureaucracy. Spend more time complying with what we are told and filling more forms in detracts from farming it self. Land does not get any large profits. Just want to farm! I want to feed the nation and make good food.

I think I'd pack up and leave farming.

Definitely get out of farming.

I'd give up. the whole idea that the single farm payment is going to be reduced means that I don't know if I'm coming or going, and stupid questions like this fill me with incredible annoyance, why on earth would you reduce the single farm payment and increase silly environmental conservation schemes when they have been abject failures up until now. Please write this down: I am horror struck at the lack of birds, and these conservation schemes are crap. They are dying at a frightening rate, and we are inundated with predators. One neighbouring farmer killed and buried 200 badgers because they were in one man's silage pit every night. There are huge TB problems.

6.7.11 General points

The tone of the quote above, which covers a number of issues, was reiterated by other interviewees. Some of these quotes are shown below:

Starve - because we can't live on the environment. I agree with not polluting rivers and streams and things, but it's not going to benefit any-one keeping strips of land unused. It's just a drain on our resources. Single farm payments are tax payer's money.

Farming's not looked at in the right way. It's not being looked at for producing. I think farmers have reduced stock because they know they can get the money from the single farm payment.

I think the best thing to scrap the CAP so I can just get on with farming my land as I wish with out all the interfering.

Retire. We've always tried to act as conservationists, I feel the agri-environmental schemes have always been good but I think they're going too far now. Our valley is slowly closing up now. CCW are fencing on the valley, they've taken all the sheep, and it's just like a jungle. People are not going to be able to get to these areas because they're becoming in-accessible. It will be a wild, barren country. We would like to have more control over the landscape.

6.8 Responses to a potential cost-price squeeze.

To reiterate, Question 22 of the questionnaire was:

If input costs continue to rise but farm gate prices fall, what will you do over the next five years?

6.8.1 Frequency analysis

As with Question 21, the responses were post-coded. Table 6.2 displays the frequencies of the codes and the proportions of the total sample. The analysis is illustrated by appropriate quotations from the responses. To reiterate, the responses and codes were not mutually exclusive: there were overlaps.

Table 6.2 Frequency of codes

Code	Frequency	Proportion of Total Sample
Carry on business as usual	209	21%
Cut costs (i.e. farm more economically)	117	12%
Uncertainty – not sure what to do.	162	16%
Farm more environmentally	13	1%
Diversify/multifunctional (outside farming)	73	7%
Diversify/multifunctional (inside farming)	26	3%
Intensify/scale enlargement	19	2%
De-intensify/downsize the farm business	114	11%
Exit farming: Retire	43	4%
Exit farming: Sell up	232	23%
Total	1008	100%

6.8.2 Carry on business as usual

Slightly more than one in five interviewees (at 21% the second largest category) stated that, in the event of a cost-price squeeze, they would carry on as usual with their farming business. Some argued that they were locked into specific markets:

Pray for farm gate prices to up again! I'm powerless as an organic dairy farmer- I'm at the will of the price of milk.

Carry on the way I am, I can't jump and change. You can't chop and change in farming as it's too expensive. You just have to carry on as you are and make things easier and more simplified. It's all you can do.

While others considered themselves born and bred farmers with strong cultural ties to their land and way of life:

Just tighten our belts, I am the fifth generation on this farm and my son is the sixth, so I am quite unwilling to give it up any time soon.

I would carry on. You are born into it.

6.8.3 Cut costs (i.e. farm more economically)

More than one in ten interviewees (12%) would continue with their current farming operations but pay more attention to farming economically and efficiently. The quotes indicate some of the measures that they would take:

I'd reduce the stock in and not spend so much on input.

Try and be more efficient in what we are doing. we'd have to be more careful with our choice of stock.

Cut down on our spending - no new tractors, no new cars, or new Landrovers.

I'll try to reduce costs in labour, machinery costs and try to be efficient.

Tighten our belts up very rapidly. I don't know in what areas, to be honest. Feed, fuel and fertiliser - they are the highest input costs. I would consider how to reduce the costs on that system. I suppose, not spend as much on equipment, which might be shortsighted.

At the moment I'm on the limit, so I would have to look at cutting costs. Less machinery and fixtures and fitting - just generally try and economise where I can.

6.8.4 Uncertainty – not sure what to do.

Some of the responses of the 16% of interviewees who expressed uncertainty about their reaction to a cost-price squeeze indicated underlying concerns:

You know what farmers do, they go on producing for the market even if it is at a loss, so I don't know what the answer is.

Tighten my belt. Cut back somewhere - no idea where.

Try and stay afloat. Wait and see.

We have to do something or we will lose our farm.

Don't know at the moment - attack it when it comes along. At the moment farming is bad. I've got two sons and I've got to take them into consideration as well, we've got to talk as a family and I can't answer the question for them as well.

I don't know, what can you do, you're into farming, and with what's happening with the government, what can we do about it? They're wasting money everywhere, there's nothing we can do.

Again, some responses indicated a dependency on farm payments:

It's a two edged sword, at the moment farming doesn't pay and the single payment is the be all and end all. If it's reduced in 2013 it'll give a lot of hard thinking. If input costs do go up then we'll go into the red.

I don't know myself because I am in a very borderline situation. It is only the single farm payment that keeps me afloat.

And there were those who mentioned the possibility of suicide:

Long rope and a strong beam. Try and carry on.

That will be terrible, I will probably shoot myself.

6.8.5 Farm more environmentally

Only 1% (13/2008) of the respondents stated that they would respond to a cost-price squeeze by adopting more

environmentally friendly farming practices. These measures included changing the breed type of livestock:

Extensify - just simply cutting down on fertiliser, feed and certainly changing the balance of breeds. We started doing that. We had Suffolk pedigree sheep and cut that flock down and brought in a more hill-type of ewe. If finances dictated then we'd change fully to the latter.

Keep easier livestock to live off the land, like more Welsh mountain ewes.

We'd have to try and produce farming cheaper. Cut costs - produce less. We'd have to farm more extensively and not so intensive.

6.8.6 Diversify/multifunctional (outside farming)

The relatively low levels of diversification activities have been noted earlier in this report. Of the 7% of the sample who stated that they would diversify outside of farming, some were already diversifying:

We could increase the contracting side of things.

Do exactly what we are doing now. Basically diversification keeps the farm there.

I'm resigned to the fact that there's not much money in farming, so I'd tap into tourism a bit more by expanding the campsite.

I would continue to try and expand on the equine side such as more stables and amenities. Make the husband work extra hours .

Put more energy into my diversification. I suppose increase my borrowing to get my house in order. I might have to sell something to get my borrowing to a manageable amount.

Carry on as we are, we can't get out of farming. Work harder outside the farm- our outside jobs subsidise the farm.

For others it would be a new venture:

Cut livestock numbers and go into windmills, wind energy.

Diversify - we probably have to look into outside jobs, where the farm would take a back seat.

Some implied that financially things were difficult:

Look at our diversification to see if we can create more profit from that, failing that we may be forced out of farming and business.

Struggle - try and find an outside job.

While others indicated that, at present, prices were not too bad:

If the prices hold as they are it is not too bad but if they do fall again then we would cut back again. If it did happen, I would have to find alternative work like plant work. It has dropped off a bit since the building trades have gone a bit but they will come back won't they?

It's better this year than it's been before -- lamb better, cattle prices better. But the cost of machinery has gone up loads. We'd cut down and do other jobs.

6.8.7 Diversify/multifunctional (inside farming)

Few interviewees (3% or 26/2008) would diversify within farming:

Look at egg-laying and see if that is going alright and might go into that. If cattle and sheep don't work then we'll have to get rid of them.

Probably concentrate more on the production of energy crops.

6.8.8 Intensify/scale enlargement

In terms of adjusting the scale of farming activities to meet the challenge of a cost-price squeeze, 2% of interviewees would expand in an

effort to maintain or increase farm business income:

I would probably expand a little bit.

Look to increase production of milk. Possibly increase the number of beef we have.

6.8.9 De-intensify/downsize the farm business

More than one in ten (11%) of interviewees would downsize their farming activities, seeking greater efficiency and lowering costs, sometimes by producing more feed crops:

No choice but to become more efficient, cut livestock numbers and seek advice.

Possibly cut down the farming operation and rent some more of the land out. We could also look at growing alternative forage crops to reduce the costs of bought in feeds, to try and make the farm more self-sufficient. We may look at changing the production systems, by looking at alternative livestock with lower inputs.

Again, there were indications of a dependency on farm payments:

I should be able to live on single farm payments and keep no animals.

6.8.10 Exit farming: Retire

The proportion of interviewees who would retire in the event of a cost-price squeeze was 4%. As with the question that posited changes in farm payments and environmental responsibilities, they tended to be approaching retirement age:

Consider bringing plans to retire forward, sell up or rent it out or something.

Sell up and retire. The choices aren't there if profit is going to get smaller it seems daft to carry on. If we diversify we are still competing against the big supermarkets. You should either find a niche market or get out and we are getting to the age where we are likely to get out. We have waited for the last 10 years for things to get better but it is not happening so we will probably cut our losses and get out.

6.8.11 Exit farming: Sell up.

At 23% (232/1008) the largest code/category was those who, in the event of a cost-price squeeze, would exit farming, for a range of reasons. For some this would be an economic decision based on a shortfall of profits:

If we wasn't making no money, then there is no point in continuing.

If they continue to fall a lot of dairy farmers would give up. If we did enough cost-cutting and the overheads were still too much we couldn't get enough profit, then we would retire from farming, reluctantly.

Sell up. I won't be able to produce something cheaper than someone else.

Others saw the public appetite for cheap food and role of the supermarkets as factors detrimental to British farmers:

If the farm gate prices fall then we'll be forced out of the industry most likely. We're not going to produce food and make a loss at it, that's not an option. We have to just finish and leave the British public to import food from south America, or wherever. Let the British supermarkets dictate where they are going to get their food from if we are forced out of farming. Tesco and all them import food from China. No good me protesting.

Interviewees such as these pointed to the economic and financial precariousness of farming:

I would go bankrupt.

Think about leaving farming. we are at rock bottom already.

I would have to go bankrupt there is no way other way of surviving.

The problems of succession have been discussed earlier in this report:

We'll go out of farming. My son definitely would not take on the farm.

And this interviewee appeared to allude to perceived excessive environmental constraints on farmers:

De-register the farm and turn it over to wildlife.

6.8.12 General points

In response to the cost-price squeeze question, some interviewees made general points. For example, this interviewee agued that more could be done to promote Welsh goods:

It will make it very difficult for all of us, I don't think it should be allowed to fall or we'll all go bankrupt. Wales has done a good job of marketing the Welsh goods but I would like to see that increased to a higher level.

And this interviewee made points concerning the perceived barriers be placed in front of farmers; a perceived loss of history and culture; and the general lack of empathy from the public and WAG, for farming and farmers.

Well, I'm really thinking of calling it a day with livestock. I don't see any point in trying to climb over this bar which is being raised all the time. I was bred and born to produce food and my family has been here 1000 years, in this valley. They came here in 1066 from France and we've only ever produced and it's sad. My neighbour is not interested in farming, they wouldn't know the difference between the front end and the back end of a cow. They think that milk comes out of bottles. It's a tragedy but nobody seems to care. I have just had a packet from the assembly asking me to identify every single sheep on my farm. I don't see the point in identifying harmless animals.

6.8.13 Towards Integrated Analysis

Key findings from this qualitative analysis are presented below.

The following section (Section 7) presents a typological analysis. In a final analysis section (Section 8) the qualitative and typological analyses are integrated.

KEY FINDINGS

In the event of policy change and increased environmental responsibilities:

28% would carry on business as usual

22% would either require more information before planning their strategies or would not know what to do

10% would sell up and leave farming

The remainder would pursue various strategies of diversification, economies, agri-environmental schemes, alternative enterprises and retirement

In the event of a cost price squeeze:

21% would carry on business as usual

16% would not know what to do

23% would sell up or go bankrupt

The remainder would pursue various strategies of diversification, economies, agri-environmental schemes, alternative enterprises and retirement

General Points:

Concerns were expressed that farming and farmers were not understood by either WAG or the general public.

The principal purpose of farming was to produce food and this had been forgotten.

Environmental protection had gone too far

There was too much red tape and regulations

Some interviewees adduced strong cultural and historic ties to farming

Some farmers were dependent on payments

Some farmers perceived that there was a widespread dependency on payments

SECTION 7 TYPOLOGICAL ANALYSIS

7.1 Introduction

As discussed in Section 4 - 'Methods of Analysis' - typological indices were created by a process involving identifying questions with content that applied to an index; assigning (weighted) scores to those questions; and designating a range for each index (see Appendix 2). Three indices were created:

- Diversification
- Multifunctionality
- Entrepreneurship

For each index the scores accrued by the farming households in the survey were summed. Using the arithmetic mean of the scores as a mid-point, the sample was then divided into two groups: an above average group and a below average group. Cross-tabulations were then performed against farm type, farm size, age of decision maker, agricultural region, LFA status and income.

In the following analyses, where percentages are presented and discussed they represent proportions of the population of the particular category being considered.

7.2 Index of diversification

Diversification may be defined as the development of farm-based, non-agricultural activities to help sustain the farm holding.

7.2.1 Diversification in Gross Terms

Table 7.1 shows the gross distribution of farming households in this index.

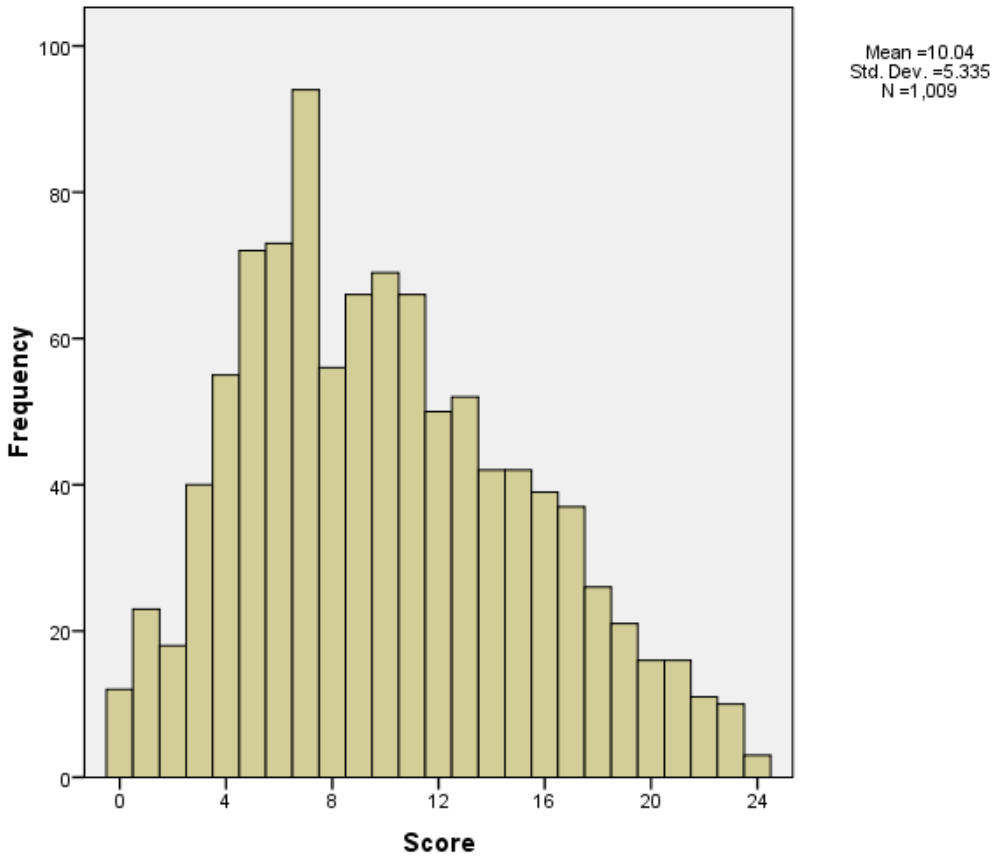
Table 7.1 Index of Diversification – distribution

	Frequency	Percent
Below average	578	57%
Above average	431	43%

The table indicates that 57% of farming households surveyed were below the mean or average score on the diversification index – 43% were above the average score. A potential maximum of 24 points was available. The mean score was 10 points.

Figure 7.1 presents graphically the distribution of the index of diversification.

Figure 7.1 Diversification Index distribution



The histogram at Figure 7.1 shows a distribution skewed towards below average scores. It should be noted that 50% of the overall sample operated at least one type of diversified activity (see Section 5.2 and Table 5.6).

7.2.2 Diversification and Farm Type

Table 7.2 Diversification and Farm Type

Main Farm Type	Below Average	Above Average
Dairy	69%	31%
Beef	54%	46%
Sheep	61%	39%
Misc - Crops, Poultry, Horticulture & Other	36%	64%
Survey Total	**57%**	**43%**

Table 7.2 shows that dairy farms in the survey were the least likely to diversify, with 69% of dairy farms below the mean for the index of diversification. At 61%, sheep farms also had a relatively high proportion below the index mean. Farms outwith the mainstream farm types of dairy, beef and sheep recorded the highest proportions above the diversification index mean at 66%.

7.2.3 Diversification and Economic Farm Size

Table 7.3 shows how the index of diversification varied by the economic size of the farms in the survey.

Table 7.3 Diversification and Economic Farm Size

Economic Farm Size	Below Average	Above Average
Very Small	57%	43%
Small	55%	45%
Medium	60%	40%
Large / Very Large	60%	40%
Survey Total	**57%**	**43%**

As economic farm size increased there was a tendency towards less diversification.

7.2.4 Diversification and Age of respondent

Table 7.4 Diversification and Age

Age	Below Average	Above Average
18 - 34	43%	57%
35 - 44	51%	49%
45 - 54	45%	55%
55 - 64	61%	39%
65+	72%	29%
Survey Total	**57%**	**43%**

Table 7.4 shows that up to the age of 54 years there was a tendency for more farms to be above the mean on the index of diversification, with a slightly downward trend that flattened between 35 to 44 years. However, in the two older groups of 55 – 64 and above 65 years, the trend reversed, with greater and increasing proportions below the mean for the diversification index.

7.2.5 Diversification and Region

Table 7.5 Diversification and Region

Agricultural Region	Below Average	Above average
North East Wales	61%	39%
North West Wales	54%	47%
Powys	59%	41%
Ceredigion	54%	46%
Carmarthenshire	63%	37%
Pembrokeshire	57%	43%
South Wales	48%	52%
Survey Total	**57%**	**43%**

The only region with a larger proportion above the mean for diversification was South Wales at 52%.

7.2.6 Diversification and LFA

Table 7.6 Diversification and LFA

Location of farm household	Below Average	Above average
Non-LFA	56%	44%
LFA	58%	42%
Survey Total	**57%**	**43%**

The proportions of farms below the mean for diversification in both LFA and non-LFA categories were similar to the overall proportions for the survey sample. From this data LFA status did not appear to affect the diversification index.

7.2.7 Diversification and Principal Income Source

Table 7.7 Diversification and Principal Income Source

Income Source	Below Average	Above average
Market Place	63%	37%
SFP	52%	49%
Agri-env scheme & LFA	Low numbers	Low numbers
Diversification	32%	68%
Other off farm jobs	51%	49%
Mixed Income Source	57%	43%
Survey Total	**57%**	**43%**

As would be expected, farming households that nominated 'diversification' as their principal source of income had the highest proportion, at 68%, above the mean on the diversification index. Farming households with other principal sources of income, such æs farming-related incomes and subsidies, tended towards scores and proportions below the diversification index mean.

At 63% farming households that nominated 'the market' as their principal source of income had the greatest proportion below the index mean.

7.3 Index of multifunctionality

Multifunctionality may be defined as the degree to which farms contribute, beyond their primary function of producing food and fibre, to environmental benefits such as land conservation, the sustainable management of renewable natural resources; the preservation of biodiversity; and socio-economic aspects. Agri-environmental schemes and the associated payments provide opportunities for farming households to engage in many aspects of multifunctionality.

7.3.1 Multifunctionality in Gross Terms

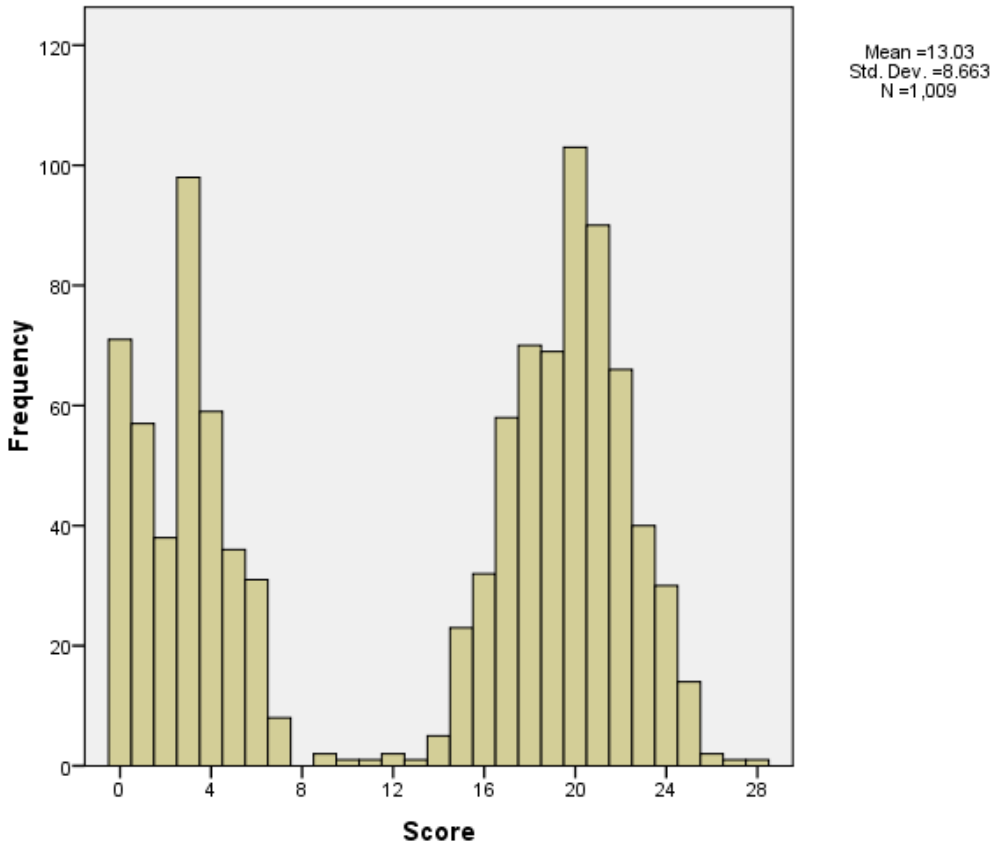
Table 7.8 shows the gross distribution of farming households in this index. The index of multifunctionality was constructed principally around entry into the range of agri-environmental schemes. Consequently, its construction tended to be binary – farming households tended to score high or low.

Table 7.8 Index of Multifunctionality - distribution

	Frequency	Percent
Below average	405	40%
Above average	604	60%

The table indicates that 60% of the sample was above average on this index. On the index of Multifunctionality there was a possible maximum score of 40 points and the mean score was 13. As Figure 7.2 illustrates the distribution was bi-modal, with a low scoring group and a relatively high scoring group with few farming households in the middle range and some high performing outliers.

Figure 7.2 Multifunctionality Index distribution



7.3.2 Multifunctionality and Farm Type

Table 7.9 Multifunctionality and Farm Type

Main Farm Type	Below Average	Above Average
Dairy	49%	51%
Beef	41%	59%
Sheep	33%	67%
Misc - Crops, Poultry, Horticulture & Other	52%	48%
Survey Total	**40%**	**60%**

Of the three main farm types, sheep and beef outperformed dairy in terms of multifunctionality, although all three farm types had greater proportions above the index mean. Sheep farms had 67% above the index mean compared to 59% for beef and 51% for dairy.

7.3.3 Multifunctionality and Farm Size

Table 7.10 Multifunctionality and Farm Size

Farm Size	Below Average	Above Average
Very Small	52%	48%
Small	33%	67%
Medium	33%	67%
Large / Very Large	41%	59%
Survey Total	**40%**	**60%**

In terms of farm size and multifunctionality, very small farms were the worst performers with 48% above the index mean. The other categories of farm size all recorded proportions above the mean of 60% or more - except Large/Very farms, which at 59% approached 60%.

7.3.4 Multifunctionality and Age

Table 7.11 Multifunctionality and Age

Age	Below Average	Above Average
18 - 34	54%	46%
35 - 44	35%	65%
45 - 54	35%	65%
55 - 64	39%	61%
65+	47%	53%
Survey Total	**40%**	**60%**

The trend in terms of age was for multifunctionality to increase with age until 55, when there was a flattening of the upward trend. This was similar to the relations between age of respondent and diversification.

7.3.5 Multifunctionality and Region

Table 7.12 Multifunctionality and Region

Agricultural Region	Below Average	Above Average
North East Wales	48%	52%
North West Wales	33%	68%
Powys	35%	65%
Ceredigion	39%	61%
Carmarthenshire	44%	56%
Pembrokeshire	34%	66%
South Wales	48%	52%
Survey Total	**40%**	**60%**

All regions recorded above the index mean for multifunctionality. The highest scores were North West Wales (68%), Pembrokeshire (66%) and Powys (65%).

7.3.6 Multifunctionality and LFA

Table 7.13 Multifunctionality and LFA

Location of farm household	Below Average	Above Average
Non-LFA	54%	46%
LFA	36%	64%
Survey Total	**40%**	**60%**

There was a definite difference between those farms in an LFA and those not in an LFA in terms of multifunctionality. Those farms in an LFA recorded proportions of 64% above the index mean compared to 46% above the index mean for those farms not in an LFA. This resonates

with the greater opportunities to contribute to environmental benefits such as land conservation, the sustainable management of renewable natural resources and the preservation of biodiversity in LFA areas.

7.3.7 Multifunctionality and Principal Income Source

Table 7.14 Multifunctionality and Principal Income Source

Income Source	Below Average	Above Average
Market Place	39%	61%
SFP	30%	70%
Agri-env scheme & LFA	Low numbers	Low numbers
Diversification	56%	44%
Other off farm jobs	48%	52%
Mixed Income Source	43%	57%
Survey Total	**40%**	**60%**

The best performers were those farming households that nominated the SFP and the market place as their principal source of income. Those farming households that nominated mixed sources (e.g. equal weight to the market place, SFP and diversification) also recorded above average proportions for multifunctionality at 57%. Only those farming households that nominated diversification as their principal income source recorded below average for multifunctionality.

7.4 INDEX OF ENTREPRENEURSHIP

Entrepreneurship may be defined as the ability, skills and mindset of farmers in terms of assembling resources and innovations to find new ways of entering different markets.

7.4.1 Index of Entrepreneurship in Gross Terms

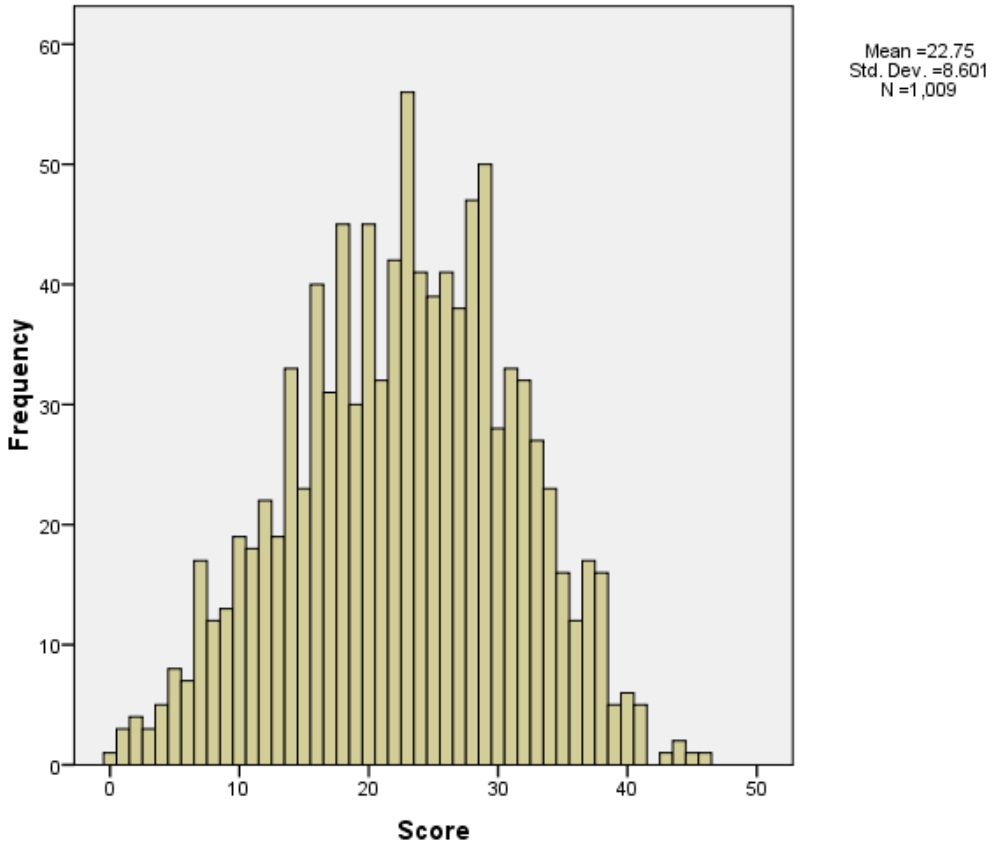
Table 7.15 shows the gross distribution of farming households in this index.

Table 7.15 Index of Entrepreneurship – distribution

	Frequency	Percent
Below Average	472	47%
Above Average	537	53%

There was a potential maximum score of 52 points for entrepreneurship. As Figure 7.3 indicates, the mean score was 23 points. Figure 7.3 depicts a relatively even distribution around the mean, with the mean close to the mid-point of the range.

Figure 7.3 Entrepreneurship Index distribution



7.4.2 Index of Entrepreneurship and Farm Type

Table 7.16 Entrepreneurship and Farm Type

Main Farm Type	Below Average	Above Average
Dairy	35%	65%
Beef	49%	51%
Sheep	53%	47%
Misc - Crops, Poultry, Horticulture & Other	33%	67%
Survey Total	**47%**	**53%**

Sheep were the only farm type with a greater proportion below average on the index of entrepreneurship at 53%. The proportions of beef farms above and below average were practically equal, while dairy and the miscellaneous types of farm recorded high above average proportions of 65% and 67% respectively.

7.4.3 Index of Entrepreneurship and Economic Farm Size

Table 7.17 Entrepreneurship and Economic Farm Size

Farm Size	Below Average	Above Average
Very Small	56%	44%
Small	53%	47%
Medium	37%	63%
Large / Very Large	24%	76%
Survey Total	**47%**	**53%**

There was a definite upward gradient in terms of economic farm size. The large and very large farms far outperformed the others on the index of entrepreneurship. Both very small and small farms recorded greater proportions below average.

7.4.4 Index of Entrepreneurship and Age

Table 7.18 Entrepreneurship and Age

Age	Below Average	Above Average
18 - 34	23%	77%
35 - 44	34%	66%
45 - 54	35%	65%
55 - 64	53%	47%
65+	61%	39%
Survey Total	**47%**	**53%**

Entrepreneurial activity was greater in the youngest age group of 18-34, remained at a high level until 54 years and then dropped to below average in the groups above 55 years.

7.4.5 Index of Entrepreneurship and Region

Table 7.19 Entrepreneurship and Region

Agricultural Region	Below Average	Above Average
North East Wales	47%	53%
North West Wales	43%	57%
Powys	48%	52%
Ceredigion	48%	52%
Carmarthenshire	53%	47%
Pembrokeshire	39%	61%
South Wales	45%	55%
Survey Total	**47%**	**53%**

Pembrokeshire performed the best on index of entrepreneurship, with 61% above average, while neighbouring Carmarthenshire was the only below average agricultural region, with 53% below average.

7.4.6 Index of Entrepreneurship and LFA

Table 7.20 Entrepreneurship and LFA

Location of farm household	Below Average	Above Average
Non-LFA	37%	63%
LFA	50%	50%
Survey Total	**47%**	**53%**

While farming households in an LFA recorded even proportions, non-LFA farming households had 63% above average.

7.4.7 Index of Entrepreneurship and Income Source

Table 7.21 Entrepreneurship and Income Source

Income Source	Below Average	Above average
Market Place	44%	56%
SFP	47%	53%
Agri-env scheme & LFA	Low numbers	Low numbers
Diversification	35%	65%
Other off farm jobs	49%	51%
Mixed Income Source	57%	43%
Survey Total	**47%**	**53%**

The best performing group here was those households that nominated diversification as their principal income source.

7.5 Integrated analysis

Key findings from the typological analysis are presented below. The typological analysis is taken forward to Section 8, where it is integrated with the qualitative analysis from Section 6.

KEY FINDINGS

Index of Diversification

43% of farming households were above the average score

At 69% below average, dairy farms were the least likely to diversify

At 64% above average, farms with miscellaneous activities (other than dairy, beef or sheep) were the most likely to diversify

Younger age groups were more likely to diversify – after 54 years performance became below average

Index of Multifunctionality

60% were above the average score

Sheep farms performed the best – above average scores were recorded for: sheep at 67%, beef at 59% and dairy at 51%

Very small farms performed the worst at 52% below average

Multifunctionality increased with age until 54 years

Farms in an LFA recorded 64% above average compared to 46% above average for non-LFA farms

Index of Entrepreneurship

53% were above average

Dairy and the miscellaneous types of farm recorded above average proportions of 65% and 67% respectively

Large/very large farms performed the best at 76% above average

Entrepreneurial activity was greater in the youngest age group of 18-34, remained at a high level until 54 years and then dropped to below average in the groups above 55 years.

While farming households in an LFA recorded even proportions above and below average, non-LFA farming households had 63% above average.

SECTION 8 INTEGRATED ANALYSIS: RESILIENCE AND VULNERABILITY

8.1 Introduction

This final analysis section brings together the qualitative analysis from Section 6 and the typological analysis from Section 7. From this analysis measures of resilience and vulnerability are derived and discussed.

8.2 Qualitative variables

The qualitative analysis in Section 6 was based on the responses to two open-ended questions (Q21 and Q22). These questions are reproduced below:

Question 21. If, after 2013, policy changes result in reduced payments to farmers or require changes to farming practices, such as increased environmental responsibilities, what would you do?

Question 22. If input costs continue to rise but farm gate prices fall, what will you do over the next five years?

Variables were derived from the qualitative analysis by grouping into themes the responses to Q21 and Q22 of the farming households. Each of these thematically derived variables was coded as indicative of resilience or vulnerability. In effect, each farming household that responded to the open-ended questions was coded as either resilient or vulnerable in terms of the scenarios posed by Q21 and Q22. Tables 8.1 and 8.2 show these thematic variables and codes.

Table 8.1 Q21 – Coded Thematic Variables from Qualitative Analysis

Vulnerable = V Resilient =R	Q21 Thematic Variables
V	Carry on business as usual – stay the same
V	Uncertainty
V	De-intensify the farm Business
V	Exit- Retire
V	Exit – give up/sell up
R	Diversify/ multifunctional / multiple incomes
R	Intensify the farm business / scale Enlargement
R	Take on more environmental responsibilities – proactively
R	Take on more environmental responsibilities – reluctantly

Table 8.2 Q22 – Coded Thematic Variables from Qualitative Analysis

Vulnerable = V Resilient =R	Q22 Thematic Variables
V	Carry on business as usual
V	Uncertainty
V	De-intensify
V	Exit- retire
V	Exit - sell up
R	Cut costs
R	Farm more Environmentally
R	Diversify / multifunctional (outside farming)
R	Diversify / multifunctional (inside farming)
R	Intensify / scale Enlargement

8.3 Overall proportions of resilience and vulnerability

Table 8.3 shows the overall proportions of resilience and vulnerability, for the total sample of 1009 farming households.

Table 8.3 Overall Resilient and Vulnerable Farming Households

	Q21	Q22
Vulnerable	68%	75%
Resilient	32%	25%

The table shows that 68% of farming households in the survey were vulnerable in terms of Q21 - their stated responses to policy changes that potentially could result in reduced payments to farmers or require changes to farming practices, such as increased environmental responsibilities.

Similarly, the table shows that 75% of farming households were vulnerable in terms of Q22 - a possible scenario that would see input costs continuing to rise but farm gate prices falling.

The tables that follow in section 8.3 compare, for both Q21 and Q22, the proportions of resilient and vulnerable farming households in the populations of specific categories with the proportions of resilient and vulnerable farming households in the overall survey population.

8.3.1 Resilience/Vulnerability and Farm Type

Table 8.4 and Table 8.5 show resilience/vulnerability in terms of farm type for Q21 and Q22 respectively.

Table 8.4 Q21 – Resilience / Vulnerability and farm type

Q21	Vulnerable	Resilient
Dairy	64%	36%
Beef	71%	29%
Sheep	67%	33%
Misc - Crops, Poultry, Horticulture & Other	68%	32%
Overall	68%	32%

Table 8.5 Q22 – Resilience / Vulnerability and farm type

Q22	Vulnerable	Resilient
Dairy	70%	30%
Beef	80%	20%
Sheep	76%	24%
Misc - Crops, Poultry, Horticulture & Other	69%	31%
Overall	75%	25%

Tables 8.4 and 8.5 show that the ratios of vulnerable to resilient farms tended to reflect the overall ratios for both Q21 and Q22 scenarios. However, beef farms had the highest proportions of vulnerable farms for Q21 and Q22, followed by sheep farms.

8.3.2 Resilience/Vulnerability and Farm size

Table 8.6 and Table 8.7 show resilience/vulnerability in terms of economic farm size for Q21 and Q22 respectively.

Table 8.6 Q21 – Resilience / Vulnerability and economic farm size

Q21	Vulnerable	Resilient
Very Small	76%	24%
Small	64%	36%
Medium	68%	32%
Large / Very Large	56%	44%
Overall	68%	32%

Table 8.7 Q22 – Resilience / Vulnerability and economic farm size

Q22	Vulnerable	Resilient
Very Small	86%	15%
Small	74%	26%
Medium	68%	32%
Large / Very Large	66%	34%
Overall	75%	25%

Tables 8.6 and 8.7 indicate that vulnerability tended to increase as farm size decreased.

8.3.3 Resilience / Vulnerability and Age

Table 8.8 and Table 8.9 show resilience/vulnerability in terms of the age of the interviewee for Q21 and Q22 respectively.

Table 8.8 Q21 – Resilience / Vulnerability and age of interviewee

Q21	Vulnerable	Resilient
18 - 34	82%	18%
35 - 44	64%	36%
45 - 54	59%	41%
55 - 64	68%	32%
65+	76%	24%
Overall	68%	33%

Table 8.8 shows that farming households headed by farmers under 35 years were more vulnerable in terms of policy changes. While the levels of vulnerability reduced for the age groups 35 – 44 and 45 – 54, they increased with age after 54 years.

Table 8.9 Q22 Resilience / Vulnerability and age of interviewee

Q22	Vulnerable	Resilient
18 – 34	56%	44%
35 – 44	66%	34%
45 – 54	68%	32%
55 – 64	80%	20%
65+	85%	15%
Overall	75%	25%

As shown by Table 8.9, for Q22 – the cost/price squeeze scenario – the youngest age group was the most resilient and vulnerability increased with age.

8.3.4 Resilience/Vulnerability and LFA

Table 8.10 Q21 – Resilience / Vulnerability and LFA status

Q21	Vulnerable	Resilient
Non-LFA	64%	36%
LFA	69%	31%
Overall	68%	32%

Table 8.11 Q22 – Resilience / Vulnerability and LFA status

Q22	Vulnerable	Resilient
Non-LFA	70%	30%
LFA	77%	23%
Overall	75%	25%

Tables 8.10 and 8.11 show that farming households in an LFA were more vulnerable for both the policy change scenario and the cost/price squeeze scenario. Note that 78% of the total survey population was in a designated LFA.

8.3.4 Resilience/Vulnerability and Farming Household Income

Table 8.12 and Table 8.13 show the relationships between Resilience/Vulnerability and the annual income of farming households.

Table 8.12 Q21 – Resilience / Vulnerability and Farming Household Income

Q21	Vulnerable	Resilient
Less than £10, 000	74%	26%
£10,000 - 15,499	70%	30%
£15,500 - 20,999	67%	33%
£21,000 - 30,999	64%	36%
£31,000 - 51,999	64%	36%
£52,000 - 77,999	59%	41%
£78,000 or more	67%	33%
Overall	67%	33%

Table 8.13 Q22 – Resilience / Vulnerability and Farming Household Income

Q22	Vulnerable	Resilient
Less than £10, 000	81%	19%
£10,000 - 15,499	74%	26%
£15,500 - 20,999	73%	27%
£21,000 - 30,999	73%	27%
£31,000 - 51,999	74%	26%
£52,000 - 77,999	74%	26%
£78,000 or more	67%	33%
Overall	74%	26%

The tables show that although all annual income bands had majority proportions of vulnerable farming households, there was a relationship between lower incomes and greater degrees of vulnerability.

8.3.6 Resilience / Vulnerability and Glastir

Interviewees were asked what the likelihood was of them enrolling in Glastir, the forthcoming new agri-environmental scheme, which will replace existing agri-environmental schemes and will enable access to LFA payments. From Section 5.3.4, 84% of farming households were aware of Glastir. Of those farming households that were aware of Glastir, 50% were highly likely or likely to join Glastir; 13% were not likely or highly unlikely to join; and 37% needed more information.

Table 8.14 and Table 8.15 show the resilience/vulnerability of these farming households in terms of Q21 and Q22 respectively.

Table 8.14 Q21 – Resilience / Vulnerability and Intentions of joining Glastir

	Vulnerable	Resilient
Highly Likely + Likely	61%	39%
Not Likely + Highly Unlikely	78%	22%
Need more info	67%	33%
Overall	66%	34%

Table 8.15 Q22 – Resilience / Vulnerability and Intentions of joining Glastir

	Vulnerable	Resilient
Highly Likely + Likely	69%	31%
Not Likely + Highly Unlikely	82%	18%
Need more info	79%	21%
Overall	74%	26%

For both policy change and cost/price squeeze scenarios, farming households that were likely to join Glastir were more resilient than those unlikely to join. Farming households that were unlikely to join tended to be vulnerable. Households that required more information about Glastir tended to be slightly more vulnerable.

Table 8.16 and Table 8.17 compare the resilience/vulnerability of farming households that were aware of Glastir with those households that were not aware, in terms of Q21 and Q22 respectively.

Table 8.16 Q21 – Resilience / Vulnerability and awareness of Glastir

Aware	Vulnerable	Resilient
Yes	74%	26%
No	81%	19%
Overall	75%	25%

Table 8.17 Q22 – Resilience / Vulnerability and awareness of Glastir

Aware	Vulnerable	Resilient
Yes	74%	26%
No	81%	19%
Overall	75%	25%

In both Q21 and Q22 cases, farming households that were aware of Glastir were more resilient.

8.3.7 Resilience/Vulnerability and Business Plans

Table 8.18 and Table 8.19 compare the resilience/vulnerability of farming households that had a business plan with those that did not.

Table 8.18 Q21 Resilience / Vulnerability and Business Plan

Q21	Vulnerable	Resilient
Yes	63%	37%
No	69%	31%
Overall	68%	32%

Table 8.19 Q22 Resilience / Vulnerability and Business Plan

Q22	Vulnerable	Resilient
Yes	73%	27%
No	76%	24%
Overall	75%	25%

These tables show that for both Q21 and Q22 the overall populations of farming households that had a business plan had greater proportions of resilient households than vulnerable households.

8.4 Integrating the Qualitative variables and the Indices

The tables that follow in section 8.4 show the relationships between the two groups (above average and below average) on each of the three indices (diversification, multifunctionality and entrepreneurship) and the thematic variables derived from the qualitative analysis.

That is, they show the proportions of farming households coded or assigned to each thematic variable that scored either above or below average on the respective index.

For each of the three indices there is a table showing the thematic variables for Q21 and Q22.

In addition, tables are presented that show the overall proportions for each index and the thematic qualitative variables for Q21 and Q22.

That is, for both Q21 and Q22, the population of the survey was coded as either resilient or vulnerable. These tables show the proportions of these resilient and vulnerable groups that scored either above average or below average on each index.

8.4.1 Integrating the Qualitative variables and the Index of Diversification

Table 8.20 Q21 - Index of Diversification/Qualitative variables

Vulnerable = V Resilient =R	Q21	Below Average	Above Average
V	Carry on business as usual – stay the same	61%	39%
V	Uncertainty	62%	38%
V	De-intensify the farm business	50%	50%
V	Exit- retire	80%	21%
V	Exit - give up/sell up	60%	40%
R	Diversify/ multifunctional / multiple incomes	36%	64%
R	Intensify the farm business/ scale enlargement	82%	18%
R	Take on more environmental responsibilities - proactively	41%	59%
R	Take on more environmental responsibilities - reluctantly	57%	43%
	Overall	57%	43%

Generally, these data are what would be expected, with above average scores on the index for resilient variables and vice versa for vulnerable variables. An anomaly is the result for the resilient variable 'Intensify the farm business/ scale enlargement'. This variable had low numbers (11). Consequently, outlying scores had a disproportionate effect on the mean for the variable.

Table 8.21 shows the relationships for Q22 between the two groups (above average and below average) on the index of diversification and the variables derived from the qualitative analysis.

Table 8.21 Q22 - Index of Diversification/Qualitative variables

Vulnerable = V Resilient =R	Q22	Below Average	Above Average
V	Carry on business as usual	65%	35%
V	Uncertainty	60%	40%
V	De-intensify	55%	45%
V	Exit- retire	74%	26%
V	Exit - sell up	60%	40%
R	Cut costs	56%	44%
R	Farm more environmentally	23%	77%
R	Diversify / multifunctional (outside farming)	34%	66%
R	Diversify / multifunctional (inside farming)	42%	58%
R	Intensify / scale enlargement	37%	63%
	Overall	57%	43%

In all cases but one scores are below average for vulnerable variables and above average for resilient variables. The anomaly at the 'Cut costs' variable may be explained by a potential disconnection between diversification and cutting costs. While the intention of farming more economically indicates prudence and resilience, it does not necessarily indicate that a farming household was involved in diversified activities.

Table 8.23 and Table 8.24 show the overall proportions for the index of diversification and the qualitative variables for Q21 and Q22 respectively.

Table 8.23 Q21 – Overall Index of Diversification/Qualitative variables

Q21	Below Average	Above Average
Vulnerable	61%	39%
Resilient	49%	51%
Overall	57%	43%

Table 8.24 Q22 – Overall Index of Diversification/Qualitative variables

Q22	Below Average	Above Average
Vulnerable	61%	39%
Resilient	45%	55%
Overall	57%	43%

From these data and analysis it may be inferred that there is a correlation between below average scores and vulnerability, and above average scores and resilience, on the index of diversification. That is, farming households that scored above average on the index of diversification tended to be resilient. Conversely, farming households that scored below average on the index of diversification tended to be vulnerable. [13]

[13] To test the statistical significance of these relationships, for both the Q21 and Q22 data, a null hypothesis that there was no relationship between diversification score and resilience/vulnerability was tested using Pearson Chi-square. The null hypotheses were rejected, indicating that there was a 95% probability that the relationships were not by chance.

8.4.2 Integrating the Qualitative variables and the Index of Multifunctionality

Table 8.25 shows the relationships for Q21 between the two groups (above average and below average) on the index of multifunctionality and variables derived from the qualitative analysis.

Table 8.25 Q21 - Index of Multifunctionality/Qualitative variables

Vulnerable = V Resilient =R	Q21	Below Average	Above Average
V	Carry on business as usual - stay the same	47%	53%
V	Uncertainty	42%	59%
V	De-intensify the farm business	30%	70%
V	Exit- retire	41%	59%
V	Exit - give up/sell up	49%	51%
R	Diversify/ multifunctional / multiple incomes	23%	77%
R	Intensify the farm business/ scale enlargement	27%	73%
R	Take on more environmental responsibilities - proactively	31%	69%
R	Take on more environmental responsibilities - reluctantly	36%	64%
	Overall	40%	60%

Table 8.26 shows the relationships for Q22 between the two groups (above average and below average) on the index of multifunctionality and variables derived from the qualitative analysis.

Table 8.26 Q22 - Index of Multifunctionality/Qualitative variables

Vulnerable = V Resilient =R	Q22	Below Average	Above Average
V	Carry on business as usual	46%	55%
V	Uncertainty	43%	57%
V	De-intensify	34%	66%
V	Exit- retire	33%	67%
V	Exit - sell up	44%	56%
R	Cut costs	31%	69%
R	Farm more environmentally	46%	54%
R	Diversify / multifunctional (outside farming)	34%	66%
R	Diversify / multifunctional (inside farming)	39%	62%
R	Intensify / scale enlargement	32%	68%
	Overall	40%	60%

As discussed in Section 7.3.1 the index of multifunctionality was constructed principally around entry into the range of agri-environmental schemes - its construction tended to be binary. This resulted in the bi-modal distribution at Figure 7.2 and the overall distribution of 40% below average and 60% above average, which displayed more divergence from the mean that the indices of diversification and entrepreneurship. The multifunctionality index mean was proportionally lower than either the means for diversification or entrepreneurship. Consequently, there was a bias towards above average scores. Tables 8.27 and 8.28 show the overall proportions for the index of diversification and the qualitative

variables for Q21 and Q22 respectively.

Table 8.27 Q21 – Overall Index of Multifunctionality/Qualitative variables

Q21	Below Average	Above Average
Vulnerable	44%	56%
Resilient	32%	68%
Overall	40%	60%

Table 8.28 Q22 – Overall Index of Multifunctionality/Qualitative variables

Q22	Below Average	Above Average
Vulnerable	42%	58%
Resilient	33%	67%
Overall	40%	60%

For both Q21 and Q22 the proportions above average for resilience were greater, and for below average were smaller, than the corresponding proportions for vulnerability. From these data and analysis a correlation between below average scores and vulnerability and above average scores and resilience, on the index of multifunctionality may be inferred. That is, farming households that scored above average on the index of multifunctionality tended to be resilient. Conversely, farming households that scored below average on the index of multifunctionality tended to be vulnerable. [14]

8.4.3 Integrating the Qualitative variables and the Index of Entrepreneurship

Table 8.29 shows the overall proportions for the index of entrepreneurship and the qualitative variables for Q21.

Generally, these data are what would be expected, with above average scores on the index for resilient variables and vice versa for vulnerable variables. This is most clearly shown for the resilient variables, 'Diversify/ multifunctional / multiple incomes' and 'Take on more environmental responsibilities – proactively'. The anomaly for 'De-intensify the farm business' may be explained by farming households cutting back on core farming and moving into other enterprises.

[14] Similarly to the relationships between scores on the index of diversification and the qualitative variables, these relationships were tested using Pearson Chi-square.

Table 8.29 Q21 – Overall Index of Entrepreneurship /Qualitative variables

Vulnerable = V Resilient =R	Q21	Below Average	Above Average
V	Carry on business as usual – stay the same	51%	49%
V	Uncertainty	51%	49%
V	De-intensify the farm business	35%	65%
V	Exit- retire	62%	39%
V	Exit – give up/sell up	58%	42%
R	Diversify/ multifunctional / multiple incomes	25%	75%
R	Intensify the farm business/ scale enlargement	55%	46%
R	Take on more environmental responsibilities - proactively	29%	71%
R	Take on more environmental responsibilities - reluctantly	46%	54%
	Overall	47%	53%

Table 8.30 shows the overall proportions for the index of entrepreneurship and the qualitative variables for Q22.

Table 8.30 Q22 – Overall Index of Entrepreneurship /Qualitative variables

Vulnerable = V Resilient =R	Q22	Below Average	Above Average
V	Carry on business as usual	58%	42%
V	Uncertainty	44%	56%
V	De-intensify	47%	54%
V	Exit- retire	63%	37%
V	Exit - sell up	52%	48%
R	Cut costs	35%	65%
R	Farm more environmentally	31%	69%
R	Diversify / multifunctional (outside farming)	32%	69%
R	Diversify / multifunctional (inside farming)	31%	69%
R	Intensify / scale enlargement	11%	90%
	Overall	47%	53%

Table 8.30 shows clear relationships between above average scores on the index of entrepreneurship and resilience. Similarly, there were clear relationships between below average scores and vulnerability for the variable 'Carry on business as usual' and the two 'Exit' variables. While there was a degree of ambiguity for the 'Uncertainty' and 'De-intensify' variables, the other vulnerable variables indicate clear relationships between below average scores on the index of entrepreneurship and vulnerability.

Table 8.31 Q21 – Overall Index of Entrepreneurship /Qualitative variables

Q21	Below Average	Above Average
Vulnerable	52%	48%
Resilient	37%	63%
Overall	47%	53%

Table 8.32 Q22 – Overall Index of Entrepreneurship /Qualitative variables

Q22	Below Average	Above Average
Vulnerable	52%	48%
Resilient	31%	69%
Overall	47%	53%

The overall picture for the relationships between entrepreneurship and the attitudes of farming households shows a correlation between below average scores and vulnerability and above average scores and resilience, on the index of entrepreneurship may be inferred. That is, farming households that scored above average on the index of entrepreneurship tended to be resilient. Conversely, farming households that scored below average on the index of entrepreneurship tended to be vulnerable[15].

8.5 Vulnerability and Exiting Farming

From the analysis, farming households who might 'Exit farming' emerged as an important vulnerable group. Table 8.33 shows the overall size of the exit group, while Table 8.34 shows how this group varied by farm type for both Q21 and Q22 scenarios.

Table 8.33 Q21 and Q22 - Exit group

	Count	Proportion of survey
Q21-Exit	143	14%
Q22-Exit	275	27%

Table 8.34 Q21 and Q22 - Exit group by farm type

Main Farm Type	Q21 - Exit	Q22 – Exit
Dairy	17%	22%
Beef	25%	26%
Sheep	42%	36%
Misc. - Crops, Poultry, Horticulture & Other	10%	8%
Don't Know or Refused	6%	7%
Overall	100%	100%

Table 8.34 shows that, for the scenarios posited by both Q21 and Q22, sheep farms were the type of farming household most likely to exit farming.

[15] These relationships were tested using Pearson Chi-square.

KEY FINDINGS

For Q21 - a scenario wherein policy changes potentially could result in reduced payments to farmers or require changes to farming practices, such as increased environmental responsibilities.

Overall 68% of farming households were vulnerable

71% of beef farms were vulnerable

Farming households headed by farmers under 35 years were the most vulnerable

After 54 years of age vulnerability again tended to increase

Farming households that were unlikely to join Glastir tended to be vulnerable

Farming households that required more information about Glastir tended to slightly more vulnerable

Farming households that were aware of Glastir were more resilient

Farming households that had a business plan were more resilient

For Q22 - a scenario that would see input costs continuing to rise but farm gate prices falling.

Overall 75% of farming households were vulnerable

80% of beef farms were vulnerable

The youngest age group was the most resilient and vulnerability increased with age

Farming households that had a business plan were more resilient

Farming households that were unlikely to join Glastir tended to be vulnerable

Farming households that required more information about Glastir tended to be slightly more vulnerable

Farming households that were aware of Glastir were more resilient

General Key Findings

Vulnerability tended to increase as farm size decreased

Farming households who might 'Exit farming' emerged as an important vulnerable group – within this group, sheep farms had the highest proportion

Farming households in an LFA tended to be more vulnerable

There was a relationship between lower incomes and greater degrees of vulnerability

SECTION 9 SUMMARY AND CONCLUSIONS

9.1 Introduction

This report covers a survey of more than 1,000 farming households in Wales. Given the way in which the sample was constructed, in terms of economic farm size, and its geographical coverage the survey was representative of farming households in Wales.

The survey was conducted using a questionnaire over the telephone. This questionnaire yielded both quantitative and qualitative data. The analyses of these data take the form of frequency counts and comparisons, and also of cross-tabulations between variables. In addition, researchers constructed complex variables from the data in order to explore more deeply some relationships.

In this report there are four sections that comment on four levels of analysis. Section 5 consists principally of frequency analysis and cross-tabulations. This analysis enables a view of how the farming households in the survey were constituted; their income profiles; and how they addressed issues such as diversification, business management and information technology. Section 6 is an analysis of the two qualitative questions posed to farming households. The qualitative analysis in Section 6 uses codes that, rather than being imposed, emerged from the data. Consequently, the analysis in Section 6 provides insights into the opinions held by farming households across Wales, and into how they might act when faced with specific scenarios involving policy, payments and the markets. The two questions that posed these scenarios were:

Question 21. If, after 2013, policy changes result in reduced payments to farmers or require changes to farming practices, such as increased environmental responsibilities, what would you do?

Question 22. If input costs continue to rise but farm gate prices fall, what will you do over the next five years?

Section 7 is a typological analysis, which categorises farming households into three modes or Indices of farming practice: Diversification, Multifunctionality and Entrepreneurship. These Indices were constructed from the data. They provide a measure of the extent to which farming households across Wales are committed to moving away from agricultural productivism and, hence, of their resilience and vulnerability to potential changes in agriculture and policy.

Section 8 integrates the analyses of Section 6 and Section 7. This integrated analysis addresses Project Aims 3 and 4, and identifies vulnerable and resilient farming households in percentage terms.

At the end of each of Sections 5, 6, 7 and 8 there is a bullet-point summary of key findings. It is not the intention of this concluding section to repeat these findings as a list, but to assemble them in ways that are potentially useful in addressing the aims of the project. The project aims agreed with WAG were:

Aim 1 To identify household income streams by assessing farming household total income from farming and non farming activities;

Aim 2 To bring out the extent of diversification and multiple jobs;

Aim 3 To outline possible responses to CAP reform, and explore behavioural attitudes;

Aim 4 To establish household resilience and vulnerability with regard to CAP reform;

Aim 5 To provide evidence to allow WAG to monitor the impact of its policies and inform the implementation of the Rural Development Plan. It is envisaged that longitudinal data will be obtained by repeating the survey at three year intervals.

Broadly, Aim 1 is addressed by the analysis of income data; Aim 2 by the data on diversification and alternative activities; and Aim 3 and Aim 4 are addressed by the qualitative, typological and integrated analyses. Aim 5 is an overarching theme for the research.

Aim 1 - The income streams of farming households in Wales

As noted in the main body of the report, income is a sensitive subject and responses to survey income questions are often low. However, the response to the income questions for this survey was very good, with 87% of interviewees responding. Moreover, the response to the questions regarding their sources of income and their relative dependency on those sources of income was even higher: 99% of interviewees responded to these questions.

In terms of annual turnover, there was a large proportion (38%) of farms with a farm business turnover of less than £25,000 per annum. These farms with low turnover were concentrated among the very small and small farms. Dairy farms had the largest turnover.

Regarding Total Annual Household Income, the tendency for large and very large farms to have greater total household incomes was apparent only at the less than £10,000 range, where there were few large and very large farms, and greater numbers of small and very small farms, and in the ranges above £52,000, where the reverse situation applied. In terms of farm type, dairy farms tended to have the largest annual incomes. Analysis also showed that 28% of the sample was not in a Less Favoured Area [LFA] and that these farming households tended to have greater annual incomes than those in an LFA.

With regard to sources of income, 50% of farming households perceived that the market place was their principal source of income. However, for 14%, the Single Farm Payment [SFP] was perceived to provide the largest proportion of household income. [16]

It should be noted that, when asked a direct question – what would they do if SFP were to be reduced (Section 5.4.1) – 27% were likely or highly likely to leave farming.

The income brought into the household by family members in off-farm employment was the perceived principal source for 15% of the sample - 41% of the farming households surveyed had income from sources not connected to the farm or agriculture. And while payments from agri-environmental schemes were the principal income source for only 2%, and small proportions of interviewees considered agri-environmental

[16] There was an apparent perception issue here. Data from the FBS at Table 2.6 in this report indicate that farms in designated LFAs in Wales received 113% of their 2009 income from the SFP.

schemes to be important sources of future income, 7% of households perceived that diversified operations were their principal source of income – 50% of farming households operated some form of diversification.

Dairy farms were the most likely to draw the largest proportion of household income from the market place; 80% doing so. Beef farms and sheep farms displayed the greatest dependence on the SFP – both recorded 17%. And miscellaneous farm types had the greatest proportion (29%) that considered diversification to be their principal source of income.

Looking forward, overall, 50% of interviewees considered that the market place would remain their most important source of income. Across farm sizes, however, there was a tendency for very small farms, as a group, to place less reliance on the market place as a future source of income. Very small farms were more likely to perceive greater potential importance for income from other household members' off-farm employment and diversification than the other farm size categories.

With regard to the SFP, very small farms attached the least potential importance, and large/very large farms similarly perceived low future importance for the SFP. In contrast, relatively large proportions of small and medium farms considered that the SFP would be an important source of income in the future.

In terms of farm type, 76% of dairy farms considered that the market place would be their most important source of income in the future; 30% of sheep farms perceived the SFP to be their most important future source of income; and 37% of miscellaneous type farms looked to diversification as their most important future income source.

These inferences and forecasts were supported by the qualitative analysis at Section 6. This analysis indicated that, in the event of policy changes, with a potentially adverse effect on farm payments, and adverse market conditions of the types suggested above, significant proportions of the survey sample would either carry on business as usual; would not know what to do; or would sell-up or go bankrupt. The qualitative analysis also revealed both individually stated dependencies on the SFP and a perceived widespread dependency on the SFP.

In summary, although the market place was the most important current source of income for the majority of farming households, there were considerable proportions of households that had a strong dependency on the Single Farm Payment and on the non-farm incomes of household members. The market place was perceived to remain as the most important source of income for 50% of the sample. There was a tendency for very small farms and miscellaneous type farms to place less reliance on the market place as a future source of income. These types of farm attached greater importance to income from other household members' off-farm employment and diversification. Relatively large proportions of small and medium farms, and sheep farms and beef farms, considered that the Single Farm Payment would be an important source of income in the future. However, only small proportions of interviewees considered agri-environmental schemes to be important sources of future income.

The downside of this analysis is that the high rates of income dependence on the market and on the SFP indicate that farming households with these characteristics could face financial

problems if either SFP were to be reduced or market conditions became unfavourable.

Conversely, the upside of this analysis is that there were relatively high levels of current and forecast future income dependence on off-farm activities and diversification. This could be interpreted as an indication that these farming households are in the process of moving away from a dependence on agricultural productivism and are engaged with the emerging rural development paradigm outlined in Section 2 and discussed further in the Conclusions.

Aim 2 - The extent of diversification and multiple jobs

Using a definition of diversification as 'The development of farm-based, non-agricultural activities to help sustain the farm holding', data from the main text of the report show that, overall, 50% of farming households surveyed were operating some form of diversified activity.

The following table, extracted from Section 5 of the main report text, shows these data.

	Operate
Agricultural services (e.g. contracting)	21%
Farm-based food processing	4%
Farm-based food retailing (e.g. farm shop)	5%
Non-agricultural contracting	9%
Farm-based accommodation (e.g. B & B, self-catering)	10%
Equine (e.g. livery, grazing, riding trails, riding lessons)	7%
Other Farm based leisure (sports, open farms)	4%
Leasing of buildings	5%
Leasing of land – Agricultural use	8%
Leasing of land – Non-agricultural use e.g. renewable energy projects	2%
Others	8%

The table shows that the activity pursued by the largest proportion at 21% was agricultural contracting. Any expansion of this type of activity would tend to depend on other farmers continuing to pursue agricultural productivism. Leasing of land for agricultural use, an enterprise that 8% undertook, could also be characterized as dependent on the maintenance of at least current levels of agricultural productivism.

Arguably, a better strategy for farming households would be to expand into some of the other activities on the main list, particularly those that connect with the tourist and alternative energy agenda.

Examples of diversification activities adduced by interviewees and aimed at new markets, included horticulture; alternative livestock such as pigs, water buffalo, llama and ostrich; energy crops; industrial crops such as fibre and oils; and organic crops and organic livestock.

Regarding organics, 10% of the total farming households produced either organic crops or livestock, or both to some degree. In terms of farm type, 35% of these 'organic producers' were sheep farms and 27% were beef farms. Dairy and miscellaneous farms constituted 15% and 17% of the total number of organic producers.

Other diversification activities that individual and small numbers of farming households were undertaking also connected with the tourist and alternative energy agenda. These included forestry (including the production of firewood); wind farms and turbines; caravan sites; leasing land for telecommunications masts; boarding kennels; contract sheep shearing; dog breeding; labour exchange trading schemes [LETS]; shooting; riparian leasing; feed merchants; the registered use of farms

for film making; tractor repairs; special needs projects; and a range of courses for rural-based activities such as hedge-laying, thatching, willow work, shepherding, cob building and coracle making. Some of these diversified activities would be good candidates for tourism and fee-paying courses.

When asked if they were likely to undertake more diversified activities over the next five years, the analysis showed that 30% of interviewees stated that they were likely or very likely to expand their diversification. However, interviewees named a range of barriers that they perceived as potential obstructions to their diversification plans. These included inadequate provision of information, advice and support; low financial returns; problems with the capacity of farm personnel and their training; legislation and regulations; and planning permission. With regard to the future importance of diversification there was a degree of ambiguity or cognitive dissonance; 42% of interviewees thought that diversification was potentially important to their farming household while 81% though that it was potentially important for farming households across Wales.

In terms of the extent of multiple jobs, 28% of those people actually answering the questions had a job or ran an enterprise that was not connected to the farm or agriculture. In addition, in 36% of the farming households surveyed other members of the household had jobs or ran an enterprise that was not connected to the farm or agriculture and which contributed to the farm household income. Overall, 41% of the farming households surveyed had income from sources not connected to the farm or agriculture. As indicated above, for 17% of the survey sample non-farm income was the principal source of total household income.

Looking forward, of the total surveyed, 15% considered that 'non-farm' income would be the most important source for the farming household in the future. Greater proportions of very small farms, and to lesser extent small farms, had 'non-farm' household income streams. In addition, very small farms were more likely to consider that 'non-farm' income would be the most important to them in the future. The importance attached to 'non-farm' incomes diminished with increasing farm size.

There were, then, relatively high levels of off-farm jobs and, taken broadly, diversification. It is suggested that, extrapolating from the analysis, two important issues emerge. First, that there is a need to provide more opportunities for off-farm employment, particularly in rural areas, in terms of both actual jobs and access to jobs. Second, that if diversification is to be encouraged it should be in forms that connect with agenda such as tourism, niche markets and alternative energy rather than agricultural productivism.

Aim 3 - Possible responses to CAP reform and behavioural attitudes

Aim 4 - Household resilience and vulnerability with regard to CAP reform

The analyses that address Aim 3 and Aim 4 of the project are best summarised together. Indeed, to a certain extent, as a result of the overlapping nature of the project aims, the earlier analysis in Section 5 partially addresses Aim 4: to establish household resilience and vulnerability with regard to CAP reform. That is, those households with sources of off-farm income and that have diversified will tend to have greater resilience to potential CAP reform. Similarly, those farming households that are dependent on the SFP and those dependent on agricultural productivity will tend to be vulnerable to CAP

reform.

Qualitative analysis

The qualitative analysis informs us about specific aspects of the behavioural attitudes of farming households in Wales. Verbatim quotes from interviewees provide individual perspectives. For example, the qualitative analysis reveals that if policy reform required farmers to take on more environmental responsibility, 6% would do so proactively as a strategy, and 1% would do so reluctantly. In addition, interviewees in the qualitative analysis expressed concerns that farming and farmers were not understood by either WAG or the general public; that the principal purpose of farming was to produce food and this had been forgotten; and that environmental protection had gone too far.

More generally, there was a sense that some interviewees were uncertain of the place of farmers in a changing world; particularly in terms of, what they perceived to be the competing claims of food production and environmental protection. While some felt that they would be compelled to leave farming, many interviewees felt tied to their land by birth, place and culture, and wanted to pass the farm on to succeeding generations. But many considered that this would not be possible. These concerns are reflected by the data for succession: 60% had a likely successor to the farm, while 47% had family succession plans.

Coding the individual responses consolidated them into a more general view of how farmers in Wales would respond to CAP reform and of their behavioural attitudes.

The codes were designed to reflect both responses to the scenarios posed by the two open-ended questions and farmers' attitudes to the implications of the scenarios (Aim 3). However, they begin to suggest degrees of resilience and vulnerability in farming households in Wales (Aim 4). Project Aim 4 is addressed more deeply by integrating the qualitative codes with the indices derived in the typological analysis at Section 7.

Typological analysis

Researchers constructed three indices: Diversification, Multifunctionality and Entrepreneurship. How these complex variables for analysis were constructed is described in Section 4 and Appendix 2.

Diversification - defined as the development of farm-based, non-agricultural activities to help sustain the farm holding.

What the typological analysis revealed was that of the three main types of farm, dairy farms were the least likely to diversify, with sheep farms slightly less likely to diversify, and that beef farms recorded the highest scores for diversification. However, the types of farms with the highest scores for diversification were 'other' types' such as horticulture, cropping and alternative livestock. In terms of farm size, very small (43% above average), small (45%) and medium (40%) farms were the best performers on the diversification index. The large and very large farm group had the highest proportion of low scoring farms for diversification at 58%.

Multifunctionality - defined as the degree to which farms contribute, beyond their primary function of producing food and fibre, to environmental benefits such as land conservation; the sustainable management of renewable natural resources; the preservation of biodiversity; and socio-economic aspects.

Of the three main farm types, sheep performed the best in terms of multifunctionality, with 67% above the average on the index. Beef farms recorded the second highest results, with 59% above the average. All three of the main types of farms, sheep, beef and dairy, outperformed 'other' types of farms. In terms of the size of farm and multifunctionality, very small farms were the worst performers, with 48% above average on the index. Small and medium farms had the highest proportions above average for multifunctionality, each type recording 67%.

Multifunctionality is intertwined with the agri-environmental schemes. Here, 84% of the survey sample was aware of Glastir, the new agri-environmental scheme, and while 50% of those aware of Glastir were likely to join the scheme that meant that 50% had concerns. At all levels of the analysis, concerns about the emerging multifunctional role of farms were apparent. For example, although 60% of interviewees were or had been in an agri-environmental scheme, barriers and obstacles to joining were cited. These included regulations and red tape; conflicts with the core farming business; administration costs; low financial returns; and inadequate advice and support.

Entrepreneurship - defined as the ability, mindset and skills of farmers in terms of assembling resources and innovations to find new ways of entering different markets.

The leading performers on the entrepreneurship index were the miscellaneous types of farms at 67% above average, and dairy farms at 65%. Dairy farms may be seen to occupy a particular position as 'specialist entrepreneurs'. That is, they are locked in to particular markets, and entrepreneurial dairy farmers seek ways to maximise economic returns from these markets. Beef farms recorded 49% and sheep farms had the lowest scores, at 47% above average.

In terms of farm size, large/very farms far out performed the other categories of farm size on the entrepreneurial index: the proportions were 36% for above average and 37% for top scores. Medium size farms also had more farms in the top half of the index. By contrast, small and very small farms had larger proportions with below average and bottom scores. The entrepreneurial index revealed a definite gradient from larger farmers with high entrepreneurial scores down to small farms with low scores.

The other levels of analysis also revealed some issues concerning the preparedness of farming households across Wales to be entrepreneurial. For example, in response to a direct question about their intentions only small proportions of the survey sample would change their business practices or start new ventures. In addition, only 19% had a business plan.

Integrated Analysis

The Typological Analysis, using the indices of diversification, multifunctionality and entrepreneurship, was then integrated with the earlier Qualitative Analysis. This integration was achieved by secondary coding the variables derived from the Qualitative Analysis as indicative of either 'Resilience' or 'Vulnerability'.

The Integrated Analysis produced measures of resilience and vulnerability to CAP reform, and to a potential cost/price squeeze at three levels. First, it produced measures for resilience and vulnerability, in gross proportions, for each of the three indices. Second, measures for resilience and vulnerability were derived for a range of variables such as farm type, farm size, age, LFA

status, income, agricultural region, Glastir, and, an important vulnerable group, those who might exit farming. Finally, proportions for resilience and vulnerability for the overall sample were produced. Table 8.15, reproduced from Section 8, shows these overall measures of resilience and vulnerability.

Table 8.15 Overall Resilient and Vulnerable Farming Households

	Q21	Q22
Vulnerable	68%	75%
Resilient	32%	25%

The table shows that 68% of farming households in the survey were vulnerable in terms of Q21. That is, their stated responses to policy changes that potentially could result in reduced payments to farmers or require changes to farming practices, such as increased environmental responsibilities.

The table shows that 75% of farming households were vulnerable in terms of Q22. That is, a possible scenario that would see input costs continuing to rise but farm gate prices falling – the cost/price squeeze.

Conclusions: Addressing Aim Five

In conclusion, we turn to Aim 5 of the project: to provide evidence to allow WAG to monitor the impact of its policies and inform the implementation of the Rural Development Plan. To reiterate a point made at the start of this final section, there are considerable overlaps between the aims of this research project. That is, to a great extent Aims 1, 2, 3 and 4 are directed towards and constitute Aim 5.

This project adds value to other previous and existing research in two ways. First, it fills an evidence gap in agricultural and rural research in Wales concerning the state of farm business activities in Wales and the attitudes of Welsh farmers towards a range of topical issues related to agricultural and rural development policy. Second, the survey provides a database that connects with completed WRO work such as the Eco-economy Scoping Study (WRO, 2006) [17] and the Deep Rural Localities Report (WRO, 2009). [18] In addition, it will connect with future research in rural Wales.

The research identifies evidence of who does what and what their strategies are. It shows that farms in Wales tend to be family orientated and to have strong historic, cultural and place-based ties to the land. From the analysis, three clusters of farming households in Wales emerge. Membership of these clusters is not mutually exclusive. A farming household may exhibit the characteristics of one cluster in some aspects of its operations and those of a different cluster in others. While members of all three clusters recognize the tensions and contradictions between food production, environmental protection and conservation, and rural development, some are better positioned to resolve these tensions and contradictions.

[17] Wales Rural Observatory (2006) Assessing the Eco-economy of Rural Wales. Cardiff University: School of City and Regional Planning, Wales Rural Observatory

[18] Wales Rural Observatory (2009) Deep Rural Localities . Cardiff University: School of City and Regional Planning, Wales Rural Observatory

'Strugglers' or 'Potential Exit' Cluster

First, there is a cluster that tends to struggle to adapt to policy changes, the caprices of the market, and the greater emphasis on the environment and rural development. In the event of reduced payments, increased environmental responsibility or adverse market conditions, members of this cluster may well retire early or leave farming, either by selling the farm or filing for bankruptcy.

In the case of the policy change and increased environmental responsibilities scenario, this 'potential exit' cluster constituted 14% of the total sample survey. For the cost/price scenario, 27% of the total sample survey suggested that they would retire, sell-up or go bankrupt.

The frequency analysis in Section 5 provides another dimension to this 'potential exit' cluster. When asked a direct question – what would they do if SFP was reduced (Section 5.4.1) – 27% were likely or highly likely to leave farming.

Sheep farms had the highest proportions that would leave farming. They constituted 42% of those who would exit farming in the event of the policy change and increased environmental responsibilities scenario, and 36% of those who would exit farming in the continuing cost/price squeeze scenario.

There were, then, high proportions of farming households that perceived themselves as vulnerable, and that might leave farming. The implications of this scenario might be exacerbated by three factors. First, at 47% a relatively low proportion of farming households had succession plans. Second, 60% of farming households had a likely successor. Third, the survey indicated an ageing population of farmers: 31% were between 55 – 64 years, and 25% were over 65 years.

'**Policy Dependent' Cluster**

Second, are those farming households that are dependent on the SFP, are dependent on agricultural productivity, and are not open to change. These characteristics were suggested by the income data and the qualitative data.

The key data concern income. Although, overall, 50% considered the market to be their principal source of income, 14% perceived their principal source of income to be the SFP. As mentioned earlier, there may be a perception issue here. Data from the 2009 FBS, tabulated in Section 2, suggest far higher levels of SFP dependency. According to the FBS data, dairy farms received 46% of farm business income from the SFP; lowland grazing livestock farms 93%; and LFA grazing livestock farms 113%. The FBS data also indicate that apart from dairy farms, all other farm types in Wales made a loss on agricultural production. It might have been that some interviewees for the WRO survey tended to accept SFP as a given, and disregarded it as a component of total household income.

Looking forward, the WRO survey data indicated a continuing majority reliance on the market for future household income but income dependency on the SFP increased to 23%.

Even if the perception issue is disregarded, both the FBS survey and the WRO survey suggest that there is a cluster of farming households that are overly dependent on the SFP. Members of this cluster will tend to be vulnerable to CAP reform, policy change and market conditions.

'Pro-active' Cluster

In the third cluster there are farming households in Wales that have diversified, have multiple income streams, are open to new ventures and entrepreneurial opportunities, and

embrace environmental responsibility and the demands of the emerging rural development paradigm. For example, 41% of the survey sample had non-farm sources of income; 50% was engaged in some type of diversification activity, and 43% were above average on the index of diversification. In terms of entrepreneurship, 53% were above the average on the index. The responses of this cluster to the scenarios tended to be to improve their existing operations and to seek new opportunities and new markets.

Members of this cluster have a greater degree of resilience with which to work through and succeed in an environment of both policy change and market uncertainty.

In addition, we can begin to see how their diversification, multifunctional and entrepreneurial activities have the potential to be drivers for the emerging new rural development paradigm, and the potential to be a basis for the eco-economy of rural Wales.

The emerging rural development paradigm

It is, however, through the index of multifunctionality that we can see most clearly the connections with the emerging rural development paradigm. On the index of multifunctionality, 60% of the survey sample was above average.

Marsden and Sonnino (2008) [19] argue that to be multifunctional, activities must add value to agriculture; contribute to a new agricultural sector – one that corresponds to the changing needs of wider society; and enable ways to rural development through new and innovate uses of rural resources. Arguably, depending on the natures of the activities, there are extensive linkages and overlaps between multifunctional activities and diversification and entrepreneurial activities.

Traditional farm enterprises typically entail three aspects: agricultural activities, the mobilization of resources, and relations with the local area, as illustrated by Figure 2.2, reproduced from Section 2.

Figure 2.2 The three sides of the agricultural enterprise

Source: Van der Ploeg *et al* (2002) [20]

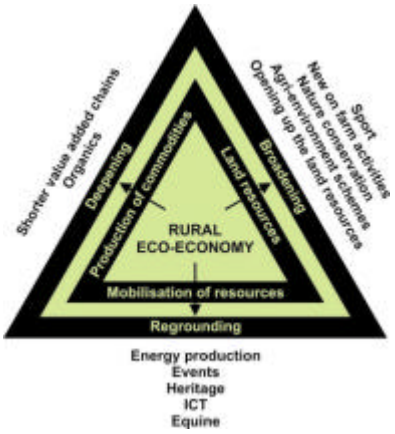
The relations between these three aspects will be both socially reproduced and transformed as farmers, responding to the demands of new markets and changing policy, attempt to re-value and re-define their economic and resource structures, forging new linkages and associations with new actors and agencies. Traditional rural and farming economic activities are transformed, diversified and expanded in processes characterised, in the academic literature, as *deepening*, *broadening* and *re-grounding*.

[19] Marsden, T and Sonnino, R (2008) Rural development and the regional state: Denying multifunctional agriculture in the UK. Journal of Rural Studies 24, 422 – 431.

[20] Van der Ploeg, J. D., Long, A and Banks, J eds (2002) *Living Countrysides: Rural Development Processes in Europe: The State of the Art*. (Netherlands: Elsevier)

Typical examples of *deepening* could be organic farming; high quality foods through on-farm production; and short linkages between production and consumption created by selling to local markets such as farmers markets. Interactions with the rural environment provide examples of *broadening*, such as nature conservation, agri-tourism, leisure, sport and amenity provision, heritage, and energy crops. Rural enterprises are *re-grounded* new or different sets of resources required for activities such as alternative energy production, special events, equine activities, and ICT. Figure 2.3 illustrates these new relationships.

Figure 2.3 The dynamics of rural development at enterprise level



Source: Van der Ploeg *et al* (2002)

This survey of farming households in Wales has captured working examples of *deepening*, *broadening* and *re-grounding* activities, from which we can begin to see signs of the emerging rural development paradigm and the potential basis for the eco-economy of rural Wales.

However, it must be recognised that many, though not all, of these *deepening*, *broadening* and *re-grounding* activities remain dependent, to varying degrees, on the payments associated with agri-environmental schemes and a range of grants and other policy initiatives.

Appendix 1

FARM SURVEY QUESTIONS (ENGLISH VERSION)

Good Morning/Afternoon/Evening, please may I speak to.....

My name is ..... and I work for Opinion Research Services and we are conducting a survey which has been developed in consultation with the farming unions on behalf of the Welsh Assembly Government. We are working directly for The Wales Rural Observatory, a research centre at Cardiff and Aberystwyth Universities, with the results being reported to the Welsh Assembly Government. The survey itself is looking at farming households in Wales. It is entirely separate from other surveys such as FBS.
Taking part in the survey is, of course, voluntary.
Before I go any further - Are you the person who makes the decisions concerning the farm? (YES/NO)

(IF NO – INTERVIEWER TO MAKE APPOINTMENT TO SPEAK WITH DECISION-MAKER.) If yes then continue.

As I said, the survey looks at farming households in Wales and issues such as diversification, off-farm enterprises, and the support available to farming households. It also provides you with the opportunity to influence policy in ways that will assist farming households in Wales.

Can you spare some time to talk to me today?
INTERVIEWER: IF NO, TRY TO MAKE AN APPOINTMENT. IF YES CONTINUE

Before we start, I just need to point out that this conversation may be monitored or recorded for training and quality purposes only and that any information that you provide will be in strictest confidence. If you would rather do the survey in Welsh, we can make an appointment for a colleague to contact you. INTERVIEWER: IF THEY REQUIRE A WELSH INTERVIEW PLEASE MAKE AN APPOINTMENT FOR A WEEK LATER AND THEN CONTACT THE SUPERVISOR AND GIVE THEM THE TELEPHONE NUMBER AND NAME OF THE RESPONDENT, A WELSH INTERVIEWER WILL THEN CALL THEM BACK AS SOON AS POSSIBLE TO MAKE AN APPOINTMENT.

The survey should take no longer than 20 minutes.

FIRST, SOME QUESTIONS ABOUT YOUR FARM

1. Regarding the tenure of the farm, is it:
INTERVIEWER: READ OUT ALL OPTIONS.
SINGLE ANSWER ONLY

Owned by you and your family ❑

Rented ❑

Mixed/Both ❑

DK
REF

2. Including yourself, how many people work on the farm?
INTERVIEWER: READ OUT EACH OPTION AND TYPE IN EXACT NUMBER, IF NONE THEN TYPE 0.

Family members _____

Full time (not family members) _____

Part time (not family members) _____

Casual labour _____

DK
REFUSED

3 (a). Regarding your main farm business**,** what are your main enterprises?
INTERVIEWER: DO NOT READ OUT, PROMPT IF NECESSARY, PROBE FULLY AND CODE ALL THAT APPLY.
MULTI CODE

Dairy
Beef
Sheep
Poultry
Cereals
Forage crops
Horticulture
Other
(SPECIFY)…….
……
DK
REFUSED

(b) How would you rank your enterprises in order of importance to your farm business where 1 is the most important?
INTERVIEWER: READ OUT THE LIST IF NECESSARY.
ANALYSIS – THIS QUESTION IS TO ONLY LIST THOSE ENTERPRISES SELECTED AT 3A. IF ONLY 1 ENTERPRISE SELECTED AT 3A THEN CONTINUE TO 4.
LIST FOR Q3

DK
REFUSED

4. Which, if any, of the following enterprises do you operate on your farm, or are considering in the future?
INTERVIEWER: READ OUT AND THEN CLARIFY. IF NOT CURRENTLY OPERATING THEN ASK IF IT IS BEING CONSIDERED OR NOT.
1 ANSWER PER ROW.

	Current	Considering	Not Considering
Horticulture			
Alternative Livestock e.g. pigs, water buffalo, llama, ostrich etc?			
Energy crops			
Industrial crops e.g. fibre, oils			
Organic crops			
Organic livestock			

5. What barriers or obstacles have you encountered or do you envisage with regard to running your farm business?
INTERVIEWER: DO NOT READ OUT, PROMPT IF NECESSARY, PROBE FULLY AND CODE ALL THAT APPLY. IF NONE THEN CODE NONE.
MULTI CODE

Administration costs ❑
Information ❑
Inadequate Advice/Support ❑
Financial return ❑
Farm personnel capacity ❑
Training ❑
Regulations ❑
Transport ❑
EU and CAP policy doubts ❑
Succession ❑

Others – INTERVIEWER TO SPECIFY
……
……
None ❑ ANALYSIS: SINGLE CODE

6. In terms of your core farming business, over the next 5 years are you planning to:
INTERVIEWER: READ OUT

Expand
Maintain ANALYSIS – GO TO 6a
Reduce Activities ANALYSIS – GO TO 6a

INTERVIEWER: DO NOT READ OUT
DK ANALYSIS – GO TO Q7
REF ANALYSIS – GO TO Q7

6 (a) Are there any particular reasons for not expanding your farm business?
INTERVIEWER: TYPE IN ANSWER VERBATIM, PROBE FULLY WITH "ANY OTHER REASONS"

No particular reason ❑

……
……

7. Which, if any, of the following types of diversified enterprise do you currently operate?
INTERVIEWER: READ OUT

	Operate	Don't Operate	DK
Agricultural services (e.g. contracting)			
Farm-based food processing			
Farm-based food retailing (e.g. farm shop)			
Non-agricultural contracting			
Farm-based accommodation (e.g. B & B, self-catering)			
Equine (e.g. livery, grazing, riding trails, riding lessons)			
Other Farm based leisure (sports, open farms)			
Leasing of buildings			
Leasing of land – Agricultural use			
Leasing of land – Non-agricultural use e.g. renewable energy projects			
Other 1– please provide brief details……Other 2 Other 3			

8(a). In terms of planning to undertake more diversified activities over the next five years, would you say you were……?
INTERVIEWER: READ OUT

Highly Likely
Likely
Not Likely
Highly Unlikely
Not at all

INTERVIEWER: DO NOT READ OUT
DK
Refused

ANALYSIS: IF HIGHLY LIKELY OR LIKELY GO TO 8b
ANALYSIS: IF NOT LIKELY, HIGHLY UNLIKELY OR NOT AT ALL GO TO Q9(b).

8b) What activities are you planning to undertake?
INTERVIEWER: WRITE IN VERBATIM AND PROBE FULLY WITH "ANY OTHERS"
……
……
……
……

9 (a). Are there any particular barriers or obstacles associated with diversified enterprises?
INTERVIEWER: DO NOT READ OUT, PROMPT IF NECESSARY AND CODE ALL THAT APPLY, IF NONE THEN CODE NONE. MULTICODE

Set-up costs	❑
Administration costs	❑
Information	❑
Inadequate Advice/Support	❑
Financial return	❑
Farm personnel capacity	❑
Training	❑
Legislation	❑
Transport	❑
Skills	❑
Broadband availability/quality	❑

Others – Interviewer to specify
……
……
None ❑ ANALYSIS: SINGLE CODE

ANALYSIS – NOW GO TO Q10

9 (b) Are there any particular reasons for not undertaking more diversified activities? INTERVIEWER: TYPE IN VERBATIM AND PROBE WITH “ANY OTHER REASONS”

No particular reason ❑

……
……
10. How important do you think diversified enterprises are to:
INTERVIEWER: READ OUT THE SCALE IN FULL.

a) The future of your farming household over the next ten years

Very important Important No opinion Not that important Not at all important

b) The future of farming households in Wales over the next ten years

Very important Important No opinion Not that important Not at all important

11 (a). Do you, have a job or run an enterprise (full or part-time) not in farming that contributes to your household income?

YES/NO

ANALYSIS: IF NO GO TO Q11(c), IF YES CONTINUE

11(b) Could you tell me either your job title or the type of enterprise? –
INTERVIEWER: TYPE IN ANSWER VERBATIM.

11 (c). Do any other members of your farming household have a job or run an enterprise (full or part-time) not in farming that contributes to your household income?
INTERVIEWER – IF YES THEN ASK HOW MANY AND TYPE IN THE NUMBER.

Yes _____

No - ANALYSIS GO TO Q12

Q11 (d) For each person can you tell me their relationship to you and their job title or type of enterprise?

ANALYSIS – RELATIONSHIP AND JOB TITLE ETC IS TO COME UP FOR THE NUMBER OF PEOPLE ENTERED AT 11c.

Person 1/2/3/4 etc:

Relationship to you

Partner ❑
Son ❑
Daughter ❑
Grandson ❑
Grandaughter ❑
Parent ❑
Other (Please specify) ❑

Job Title/Type of enterprise

INTERVIEWER: TYPE IN ANSWER VERBATIM.

THE NEXT FEW QUESTIONS ARE ABOUT AGRI-ENVIRONMENTAL SCHEMES

12. Is your farm, or has it ever been, entered in an agri-environmental or conservation scheme? YES/NO

ANALYSIS: IF NO GO TO Q16

13. Please indicate in which of the following agri-environmental schemes your farm is entered currently or used to be entered.
INTERVIEWER: READ OUT

Scheme	**Currently**	**Used to be**	**Never**
Tir Mynydd			
Tir Cynnal			
Tir Gofal			
Organic farming scheme			
Better Woodlands Wales			
Others – e.g. SSSI management (SPECIFY)			

14. How important are (or were) the payments associated with these schemes to your farming household? Would you say they are/were….?
INTERVIEWER: READ OUT

Very important Important No opinion Not that important Not at all important

15. What are the particular barriers or obstacles associated with being in an agri-environmental scheme?
INTERVIEWER: DO NOT READ OUT, PROMPT IF NECESSARY AND CODE ALL THAT APPLY, IF NONE THEN CODE NONE.

Set-up costs ❑
Administration costs ❑
Information ❑
Inadequate Advice/Support ❑
Financial return ❑
Farm personnel capacity ❑
Training ❑
Regulations ❑
Conflicts with core business ❑
Red Tape ❑
Entry closed ❑

Others – Interviewer to specify
……
……
None ❑

16. Are you aware of GLASTIR? YES/NO

ANALYSIS: IF NO GO TO Q18

17. In January 2012 the existing principal agri-environmental schemes operating in Wales will be replaced by the GLASTIR scheme. Please indicate the likelihood that you will enter your farm in GLASTIR.
Would you say you would be ……?
(INTERVIEWER: READ OUT THE SCALE

	Highly likely	Likely	Not likely	Highly unlikely	Need more information
Enrol in Glastir					

18. How important do you think embracing environmental conservation is to the future of your farming household?
INTERVIEWER: READ OUT THE SCALE

Very important Important No opinion Not that important Not at all important

19. How important is it for your farm to produce food of the highest quality?
INTERVIEWER: READ OUT THE SCALE

Very important Important No opinion Not that important Not at all important

NOW SOME QUESTIONS ABOUT MARKET ORIENTATION

20. It is possible that after 2013, reforms to the CAP may reduce the Single Farm Payment. Please indicate your intentions, if this happens, in terms of the following statements.

	Highly likely	Likely	Not likely	Highly unlikely
Change my type of farming				
Expand existing agricultural operations				
Expand existing diversification				
Start new diversification activities				
Leave farming				
Don't know				

21. If, after 2013, policy changes result in reduced payments to farmers or require changes to farming practices, such as increased environmental responsibilities, what would you do?
INTERVIEWER: TYPE VERBATIM. PROBE FULLY WITH "ANY THING ELSE"
……
……
……
……

22. If input costs continue to rise but farm gate prices fall, what will you do over the next five years?
INTERVIEWER: TYPE OF VERBATIM. PROBE FULLY WITH "ANY THING ELSE
……
……
……
……

23. Do you use a formal written business plan for:

a) Your farm business? YES/NO

b) Your diversified activities? YES/NO/NOT APPLICABLE

24. How important do you think a business plan is?

Very important Important No opinion Not that important Not at all important

25(a). Are you involved with any collaborative or cooperative schemes with other farmers? YES/NO

ANALYSIS: IF NO GO TO Q26

25 (b) What schemes are you involved with?
INTERVIEWER: DO NOT READ OUT, PROMPT IF NECESSARY.

Milk ❑
Potatoes ❑
Crops ❑
Meat ❑
Machinery ring ❑

Others (INTERVIEWER TO SPECIFY)
……
……

25 (c) How useful are these schemes for your business?

Very useful Useful No opinion Not useful Not at all useful

26. With regard to both your farm and diversified enterprises how useful to you are the following in terms of support, advice and information:
INTERVIEWER: READ OUT THE SCALE FOR THE FIRST OPTION AND REPEAT AS NECESSARY
.
a) Farmers networks (e.g. Agriscop and Farming Connect development programmes)

Very useful Useful No opinion Not useful Not at all useful

b) Family and friends

Very useful Useful No opinion Not useful Not at all useful

c) Customer networks

Very useful Useful No opinion Not useful Not at all useful

d) Supplier networks

Very useful Useful No opinion Not useful Not at all useful

THE NEXT FEW QUESTIONS ARE ABOUT SUPPORT AND ADVICE FOR FARMERS

27. Have you ever accessed any business or technical advice?
YES/NO

IF NO GO TO Q29.

28. Was the advice to help with: (TICK BOXES THAT APPLY)
INTERVIEWER: READ OUT ALL OPTIONS

	Yes	No
Single application form (IACS)	❑	❑
Tir Gofal application	❑	❑
Tir Cynnal application	❑	❑
Better Woodlands	❑	❑
Organic farming	❑	❑
Farming Connect	❑	❑
Planning application	❑	❑
Technical improvements on the farm	❑	❑
Business improvements on the farm	❑	❑

29. How do you rate the quality of the advice and support from the following:
INTERVIEWER: ENSURE YOU CLARIFY BETWEEN NOT BEING IN CONTACT AND NOT BEING AWARE.

	Very good	Good	Acceptable	Poor	Very poor	I have not been in contact	I am not aware of this service
Farming Connect							
Farming Unions							
CLA							
CCW							
FWAG							
Private sector advisory bodies e.g. ADAS							
Forestry Commission							
GWLAD							
Veterinary services							
Animal Health							
Local Authorities							
Other 1 (specify)							
Other 2 (specify)							
Other 3 (specify)							

THE FOLLOWING QUESTIONS CONCERN SKILLS AND IT

30. Do you (or someone in your farm business/household) use a computer for your farm business? YES/NO

31. How important do think computing/IT skills are for the future of your business?
INTERVIEWER: READ OUT THE SCALE

Very important Important No opinion Not that important Not at all important

32. Are (or someone in your farm business/household) connected to the Internet? YES/NO
ANALYSIS IF NO GO TO Q35

33. Do you (or someone in your farm business/household) use the Internet for business? YES/NO

34. Are you connected to Broadband at your farm business premises? YES/NO
ANALYSIS IF YES GO TO Q36

35. Is Broadband access available at your farm business premises? YES/NO/DK

36. How important do you think Broadband is for the future of your business enterprises?

Very important Important No opinion Not that important Not at all important

37. If online access to agricultural forms was available would you consider using it? YES/NO

38. What is your highest educational qualification? (TICK ONE)
National Diploma
HNC/HND
A levels
O Levels/CSEs/GCSEs
First Degree (e.g. BA, BSc)
Professional qualification
Higher degree
NVQ Level 4-5
NVQ Level 3
NVQ Level 1-2

Other (specify)
No qualifications

NOW SOME QUESTIONS ABOUT SUCCESSION

39 (a). May I ask your age?

18 years old to 24 years old ❑

25 years old to 34 years old ❑

35 years old to 44 years old ❑

45 years old to 54 years old ❑

55 years old to 64 years old ❑

65 years old or older ❑

REFUSED ❑

40. GENDER

INTERVIEWER: DO NOT READ OUT

Female ❑ Male ❑

41. How many people are there in your household?
INTERVIEWER: TYPE IN NUMBER

……

REFUSED

42. Do you have a likely successor to your farm YES/NO/DK/REF

43. Do you have family succession plans? YES/NO/DK/REF

FINALLY, MAY WE ASK YOU SOME QUESTIONS ABOUT INCOME?

In order to better understand farming in Wales and to assess the data we have collected, knowing the approximate amount of income for your farming household will greatly improve this research. All data we collect will be completely confidential.

44 (a). Which of the following sources provides income to your farming household? For each source of income please can you also tell me what percentage of your total farming income this represents.

	YES/NO	%
The Market Place		
Single Farm Payment		
Agri-environmental schemes and LFA		
Diversification		
Other household members off farm jobs		
TOTAL		100%

ANALYSIS – ALLOW REFUSED FOR THE PERCENTAGES.

44 (b). Which one of these sources will be the most important to your farming household in the future?

……

45. Please would you indicate the annual turnover of your core farming business for the tax year 2008-2009?
(INTERVIEWER: PROMPT USING RANGES BELOW)

Annual Turnover	
Less than £25,000	
£25,000 – 67,999	
£68,000 – 99,999	
£100,000 – 149,999	
£150,000 – 199,999	
£200,000 – 249,999	
£250,000 – 499,999	
£500,000 or more	
Don't know	
Refused	

46. Would you be able to indicate which of the following ranges most closely relates to your total gross household income. What we mean by this is the income, from all sources, coming into the household before any taxes have been deducted.
(INTERVIEWER: PROMPT USING RANGES BELOW)

Annual	
Less than £10, 000	
£10,000 – 15,499	
£15,500 – 20,999	
£21,000 – 30,999	
£31,000 – 51,999	
£52,000 – 77,999	
£78,000 or more	
Don't know	
Refused	

47. Members of the The Wales Rural Observatory, a research centre at Cardiff and Aberystwyth Universities, intend to do some follow-up interviews in order to gain deeper insights into farming in Wales. Your contact details will be passed to them so they can make arrangements. Any follow up interview would be arranged at a time and place of your convenience. By agreeing to this, you are just agreeing to allowing ORS to pass on your contact details, you can decide when they contact you if you still wish to participate in the follow up survey depending on what it entails.

Would be willing to allow ORS to send on your details to possibly contribute further to this important research project. YES/NO

48. Another survey is planned for two years. This would enable us to track farming household issues in Wales over time. Would you be willing to participate, if available, for a survey in two years time? Again, you are only agreeing to a being re-contacted, you can then decide if/when you are contacting again if you are willing to participate. YES/NO

ANALYSIS – IF YES TO EITHER RECONTACT QUESTION THEN PLEASE COLLECT THE NAME OF THE RESPONDENT.

Thank you for your assistance with this important research

INTERVIEWER: PLEASE CODE IF INTERVIEW CARRIED OUT IN ENGLISH/WELSH OR OTHER

English ❑
Welsh ❑
Other – please specify ❑

INTERVIEWER: PLEASE CODE FARM SIZE FROM DATA SAMPLE

Very Small ❑
Small ❑
Medium ❑
Large/Very Large ❑

INTERVIEWER: PLEASE CODE LOCAL AUTHORITY FROM DATA SAMPLE

Isle of Anglesey
Gwynedd
Conwy
Denbighshire
Powys
Ceredigion
Pembrokeshire
Carmarthenshire
Monmouthshire

Flintshire
Wrexham
The Vale of
Glamorgan

ANALYSIS – INSERT STANDARD CLOSING STATEMENT PAGE

Appendix 2

Diversified – Contributing Questions	Codes
Which, if any, of the following enterprises do you operate on your farm, or are considering in the future? Horticulture	Q4A
Which, if any, of the following enterprises do you operate on your farm, or are considering in the future? Alternative Livestock e.g. pigs, water buffalo, llama, ostrich etc?	Q4B
Which, if any, of the following enterprises do you operate on your farm, or are considering in the future? Energy Crops	Q4C
Which, if any, of the following enterprises do you operate on your farm, or are considering in the future? Industrial crops e.g. fibre, oils	Q4D
Which, if any, of the following enterprises do you operate on your farm, or are considering in the future? Organic crops	Q4E
Which, if any, of the following enterprises do you operate on your farm, or are considering in the future? Organic livestock	Q4F
Agricultural services (e.g. contracting)	Q7A
Farm-based food processing	Q7B
Farm-based food retailing (e.g. farm shop)	Q7C
Non-agricultural contracting	Q7D
Farm-based accommodation (e.g. B & B, self-catering)	Q7E
Equine (e.g. livery, grazing, riding trails, riding lessons)	Q7F
Other Farm based leisure (sports, open farms)	Q7G
Leasing of buildings	Q7H
Leasing of land - Agricultural use	Q7I
Leasing of land - Non-agricultural use e.g. renewable energy projects	Q7J
Are there any other types of diversified enterprise do you currently operate?	Q7K
Are there any other types of diversified enterprise do you currently operate?	Q7L
Are there any other types of diversified enterprise do you currently operate?	Q7M
In terms of planning to undertake more diversified activities over the next five years, would you say you were.....?	Q8A
How important do you think diversified enterprises are to: The future of your farming household over the next ten years	Q10A
How important do you think diversified enterprises are to: The future of farming households in Wales over the next ten years	Q10B
It is possible that after 2013, reforms to the CAP may reduce the Single Farm Payment. Please indicate your intentions, if this happens, in terms of the following statements. Expand existing diversification	Q20C
It is possible that after 2013, reforms to the CAP may reduce the Single Farm Payment. Please indicate your intentions, if this happens, in terms of the following statements. Start new diversification activities	Q20D
Do you have a formal written business plan for your diversified activities?	Q23B
Which of the following sources provides income to your farming household? Diversification	Q44ADA

Multi-Mono – Contributing Questions	Code
Equine (e.g. livery, grazing, riding trails, riding lessons)	Q7F
Other Farm based leisure (sports, open farms)	Q7G
Is your farm, or has it ever been, entered in an agri-environmental or conservation scheme?	Q12
Please indicate in which of the following agri-environmental schemes your farm is entered currently or used to be entered. Tir Mynydd	Q13A
Please indicate in which of the following agri-environmental schemes your farm is entered currently or used to be entered. Tir Cynnal	Q13B
Please indicate in which of the following agri-environmental schemes your farm is entered currently or used to be entered. Tir Gofal	Q13C
Please indicate in which of the following agri-environmental schemes your farm is entered currently or used to be entered. Organic farming scheme	Q13D
Please indicate in which of the following agri-environmental schemes your farm is entered currently or used to be entered. Better Woodlands Wales	Q13E
Please indicate in which of the following agri-environmental schemes your farm is entered currently or used to be entered Other 1	Q13FB
Please indicate in which of the following agri-environmental schemes your farm is entered currently or used to be entered Other 2	Q13GB
Please indicate in which of the following agri-environmental schemes your farm is entered currently or used to be entered. Other 3	Q13HB
How important are (or were) the payments associated with these schemes to your farming household? Would you say they are/were...?	Q14
Are you aware of GLASTIR?	Q16
In January 2012 the existing principal agri-environmental schemes operating in Wales will be replaced by the GLASTIR scheme. Please indicate the likelihood that you will enter your farm in GLASTIR. Would you say you would be...?	Q17
Was the advice to help you with: Tir Gofal application	Q28B
Was the advice to help you with: Tir Cynnal application	Q28C
Was the advice to help you with: Better Woodlands	Q28D
Which of the following sources provides income to your farming household? Agri-Environmental Schemes and LFA	Q44ACA

Entrepreneurial – Contributing Questions	Code
In terms of your core farming business, over the next 5 years are you planning to:	Q6A
Farm-based food processing	Q7B
Farm-based food retailing (e.g. farm shop)	Q7C
Non-agricultural contracting	Q7D
Farm-based accommodation (e.g. B & B, self-catering)	Q7E
Leasing of buildings	Q7H
Leasing of land - Agricultural use	Q7I
Leasing of land - Non-agricultural use e.g. renewable energy projects	Q7J
How important do you think diversified enterprises are to: The future of your farming household over the next ten years	Q10A
Do you have a formal written business plan for your farm business?	Q23A
Do you have a formal written business plan for your diversified activities?	Q23B
How important do you think a business plan is?	Q24
Are you involved with any collaborative or cooperative schemes with other farmers?	Q25A
How useful are these schemes for your business?	Q25C
With regard to both your farm and diversified enterprises how useful to you are the following in terms of support, advice and information: a) Farmers networks (e.g. Agriscop and Farming Connect development programmes)	Q26A
With regard to both your farm and diversified enterprises how useful to you are the following in terms of support, advice and information: b) Family and friends	Q26B
With regard to both your farm and diversified enterprises how useful to you are the following in terms of support, advice and information: c) Customer networks	Q26C
With regard to both your farm and diversified enterprises how useful to you are the following in terms of support, advice and information: d) Supplier networks	Q26D
Have you ever accessed any business or technical advice?	Q27
Was the advice to help you with: Business improvements on the farm	Q28I
Do you (or someone in your farm business/household) use a computer for your farm business?	Q30
How important do think computing/IT skills are for the future of your business?	Q31
Are you (or someone in your farm business/household) connected to the Internet?	Q32
Do you (or someone in your farm business/household) use the Internet for business?	Q33
How important do you think Broadband is for the future of your business enterprises?	Q36