FARMERS' VIEWS ON VITAL UPLANDS

BASSENTHWAITE CATCHMENT, CUMBRIA

A pilot survey commissioned by Natural England, NW Region

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EXECUTIVE SUMMARY

This report forms part of larger study conducted on behalf of Natural England, N W region (see section 1.3). It focuses on the results of small questionnaire survey designed to investigate the views of farmers with respect to the developing value of uplands for a range of ecosystem services. Whilst the entire subject of the relationship between upland farming and ecosystem services is beyond the scope of this report, it will consider some salient points to provide a context in which this survey was conducted.

This project has adopted an adaptation of the Sustainable Livelihoods Framework (DFID, 1999) to investigate the perceptions and behaviour upland farmers with respect to the provision of ecosystem services in the Bassenthwaite Catchment. The questionnaire responses were analysed using standard qualitative and quantitative techniques where sample size allowed. Specifically Importance-Performance Analysis (IPA) was applied to a range of ecosystem services available on upland farms using the following pair of questions:

- How *important* do you think the following will be to secure the future of upland farming?
- How well *informed*, do you feel about the following topics?

Response to the survey was poor (10%). However, the data were rich enabling a fairly good analysis of ecosystem service provision derived from farm assets. In general, the respondents demonstrated a relatively high level of entrepreneurial ability to realise the full range of assets on their farm. Food production, access and wildlife/ biodiversity options were all well developed. However, the findings demonstrate a lack of awareness and practical implementation of the newer agendas embedded in the ecosystem services concept.

Particularly important topics for awareness-raising should include:

- food security
- alternative forms of energy
- the 2060 Vision
- mechanisms to maintain upland farming
- Post 2013 changes to ESS
- Expansion of the EU membership
- Grey water recycling
- Carbon storage

However, high level concern about lack of capital, fear of debt and lack of surplus labour need to be taken into account.

Recommendations

- Expand just the IPA survey to elicit more feel for knowledge and needs amongst farmers
- Develop awareness campaign on topics listed above
- Consider the appropriateness of evening talks and leaflets as dissemination mechanisms

CONTENTS

1 INTRODUCTION

This report forms part of larger study conducted on behalf of Natural England, NW region (see section 1.3). It focuses on the results of small questionnaire survey designed to investigate the views of farmers with respect to the developing value of uplands for a range of ecosystem services. Whilst the entire subject of the relationship between upland farming and ecosystem services is beyond the scope of this report, it will consider some salient points to provide a context in which this survey was conducted. After this, the methodology will be described, followed by an analysis of the results. Finally some conclusions and recommendations will be made in line with the overall aim.

1.1 Ecosystem Services in the Uplands

Whilst the term *ecosystem service* is a relatively new term in use, the provision of the range services in the uplands for wider society has long been recognised and acted upon (eg public goods provision). Following the United Nation's Millennium Ecosystem Assessment in 2000, Defra (2007) applied the concept to develop a four-fold classification of services (Figure 1) requiring all government related agencies to embrace the concept in an operational sense. Note that food production is simply one service amongst many.

The environmental pre-cursors of Natural England focused particularly on the provision of nature conservation, whilst other organisations such as the Environment Agency, Countryside Commission and the National Parks focused on other services such as water management, access and recreation. With the re-alignment of Natural England's responsibilities the umbrella concept of ecosystem services has allowed them to develop a more integrated holistic approach through strategies such as *Vital Uplands: a vision for 2060*. Over 17% of England is roughly designated as upland and thus the task to manage these areas sustainably is no mean feat, given the complexity of land ownership and use.

1.2 Ecosystem Services and Upland Agriculture

As major land use in the uplands, agriculture, by its very nature, should be a provider of ecosystem services. Indeed, the original LFA directive recognised the value of disadvantaged farming systems and their ability to provide landscape and habitat at its conception. After this a period of agricultural intensification ensued into the mid-1980s, which placed upland farming on a precarious economic footing caused by the cost-price squeeze[1]. Whilst intensification made farming more economic, it did little for the intrinsic and environmental value of the countryside (eg Shoard, 1980). It also led to overproduction and spiralling costs to the Common Agricultural Policy (CAP). One response to these developing circumstances was a formal recognition by Europe that it was important to maintain traditional farming systems for landscape and wildlife value was recognised and supported through the introduction of the ESA scheme in many uplands across the UK. For upland farmers the ESA scheme along with Countryside Stewardship was the first time that their by-products (as they saw and continue to see it) were *financially* valued by Government and to a lesser extent the public.

Since this time, agricultural policy in the EU has undergone a serious overhaul, influenced by a range of factors including:

- demands externally for a fairer market place for farm products;
- depopulation of rural areas;
- recognition of the environmental and landscape value of agricultural activity;
- the developing climate change scenarios;
- the threat of peak oil
- the fear of lack of food security
- EU expansion to include post-Soviet block states.

Whilst the agricultural policy of modulation has begun to remove direct production support the twin objectives of rural development and environmental management have provided other avenues for farmers to exploit to improve their farm business

[1] Cost price squeeze – the unenviable situation that arises for farmers when the gap between cost of production and money derived from sales reduces. There are many cases when upland farmers in particular found themselves in a negative situation (costs exceeded sales) and thus without subsidy from Europe many upland farm businesses would have failed.

incomes. The new agenda of ecosystem services *should* therefore be perceived by farmers as another opportunity to support the business.

Upland farms are particularly well suited to exploiting the ecosystem service concept. Figure 2 shows the range of services a typical upland farm provides. However, there are two challenges to overcome. First, some of these services have yet to have a financial value attributed to them, a debate that has long raged in relation to the similar concepts of *public goods* or *externalities*. Until this is accomplished it makes it hard to pay a farmer for them. However there are mechanisms which can be applied such as profit foregone (used up until now for all agri-environment grants), management payments (used by Natural England SSSIs), Willingness-to-pay or Choice Experiment (more complex methodologies which take into account the views of the consumer).

Figure 2 – Ecosystem Services Attributable to a Typical Upland Farm

Ecosystem Service	**Role of Farming**
Provisioning	
Food	Continued supply of livestock
Fibre	Sustainable exploitation of quarries and mines
Minerals	Afforestation and woodland maintenance
Energy Provision	Micro generation & turbine location
Fresh water	Halt soil erosion and pollution
Regulating	
Carbon storage & sequestration	Maintain active mire complexes
Air quality	Halt soil erosion
Water quality	Appropriate grazing regimes
Flood risk prevention	Retain vegetation
Wildfire risk prevention	
Cultural	
Recreation, tourism and education	Maintain access and egress across land
Field sports and game management	Provide appropriate vegetation through sensitive grazing
Landscape aesthetics	Maintain field structures
Cultural heritage	Continue practice and traditions
Biodiversity	
Health Benefits	
Supporting	
Nutrient cycling	Appropriate grazing and general farm management
Water cycling	Halt soil erosion
Soil formation	Limit pollution of water courses
Habitat provision	

The second challenge is perhaps more tricky, and that is to engage the upland farming population into embracing and engaging in the production of ecosystem services. Whilst it could be argued that many upland farmers already produce a range of environmental goods and are paid for them, the counter arguments often made that many only do this because:

- it does not infer with the running of the farm unit on a daily basis;
- profit foregone payments do not reduced farm profit;
- many historic schemes have simply maintained the status quo rather than enhanced the quality or quantity of their objectives
- by-production of environmental goods and services is just that, a by product, not a *raison d'etre*
- prices at market for stock are poor and thus agri-environment grants are perceived as a shortfall mechanism

What we are asking farmers to do is to re-adopt a more multifunctional operation, similar to the pre-agricultural support era, when food production was merely one of number of products from the land management unit. In a sense we are looking to undo the food production focussed support of the 20th Century and replace it with an ecosystem service menu.

If this latter challenge is to be met, we have four tasks ahead of us:

1) To demonstrate a fair payment mechanism for ecosystem service production on upland farms
2) To provide appropriate skills and knowledge to the farming population about ecosystem service management
3) To recognise that not all upland farming units can provide the same services
4) To appreciate that food production is currently central to many farmers' reason as to why they farm and thus re-skilling needs to be treated with sensitivity and the longer term view in mind

1.3 Bassenthwaite Vital Uplands Pilot Project

METHODOLOGY

This project has adopted an adaptation of the Sustainable Livelihoods Framework to investigate the perceptions and behaviour upland farmers with respect to the provision of ecosystem services in the Bassenthwaite Catchment.

1.4 The Sustainable Livelihoods Approach

The Sustainable Livelihoods Approach is designed to identify and acknowledge external vulnerabilities and internal constraints that operate on farming businesses and then move on to consider a person's assets within this framework to make the optimum use of what they have. The approach has six key objectives (DFID, 2000:1.2):

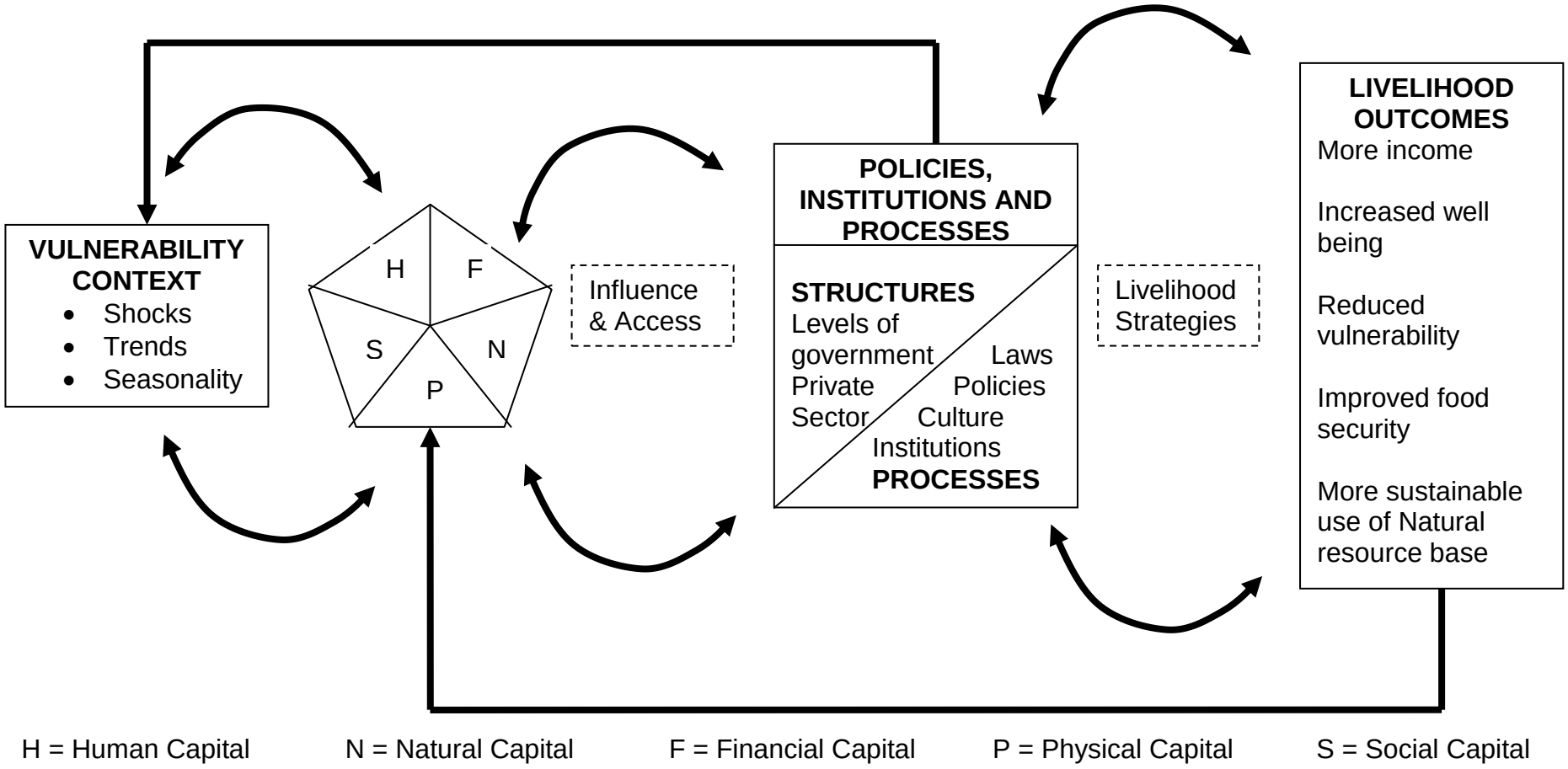
- Improved access to education, information, technologies and training, better nutrition and health
- More supportive and cohesive social environment
- More secure access to, and management of, natural resources
- Better access to basic and facilitating infrastructures
- More secure access to financial resources
- A policy and institutional environment that supports multiple livelihood strategies and promotes equitable access to competitive markets for all

Whilst these goals were designed to eliminate poverty in poorer countries, many of these objectives resonate with the plight of upland farming systems in the UK and elsewhere. The process emphasises that people should be central, allowing they themselves to identify what makes them vulnerable, what constrains their choices and how these interact to help them realise all their assets. This information is then used to develop a strategy to achieve their own livelihood outcomes known as a *Sustainable Livelihoods Framework* (SLF) (Figure 3). Strategic and operational authorities can then adopt a more person-centred approach to upland farming development to help farmers identify and value <u>all</u> of their assets.

A central concern of the SLF is to allow farmers and their families to identify the limiting factors operating upon them. For upland agriculture we can divide them into two types. First, there are *vulnerabilities* which affect farming livelihoods, cannot be

Figure 3 – The Sustainable Livelihoods Approach

(Adapted from: DFID, 1999)



controlled by farmers themselves and are derived from outside the sector. Then there are *constraints* which are related specifically to the exploitation of farm and farming community assets. Whilst every farming situation will be different there are general vulnerabilities and constraints operating on many upland farmers and their businesses.

The Vulnerability Context – Vulnerability is essentially about risk, uncertainty and lack of security (DFID, 2000). Vulnerability is closely linked to the concept of resilience. Making a farm business less vulnerable should therefore increase its resilience. We can divide vulnerability into *shocks*, which cannot be predicted, *seasonal* risks and long term *trends* which are inevitable and can be seen coming. Unpredictable shocks usually take the form as outbreaks of disease and there can be no more eloquent example as Foot and Mouth in the UK in 2001. Adverse seasonal events affect upland farming because they disrupt farming management systems and put stress on other farm resources. For example, flooding in West Cumbria in 2009 has led to much inbye land being rendered useless for winter grazing as river gravel has been dumped over grassland. Another example is longer periods of snow cover which increases supplementary feeding costs. Trends which are making upland farming vulnerable at present include:

- *External to the EU* – peak oil, climate change and food security
- *Internal to the EU* – over-reliance on direct support payments, the redefinition of LFA designation and enlargement of the EU.

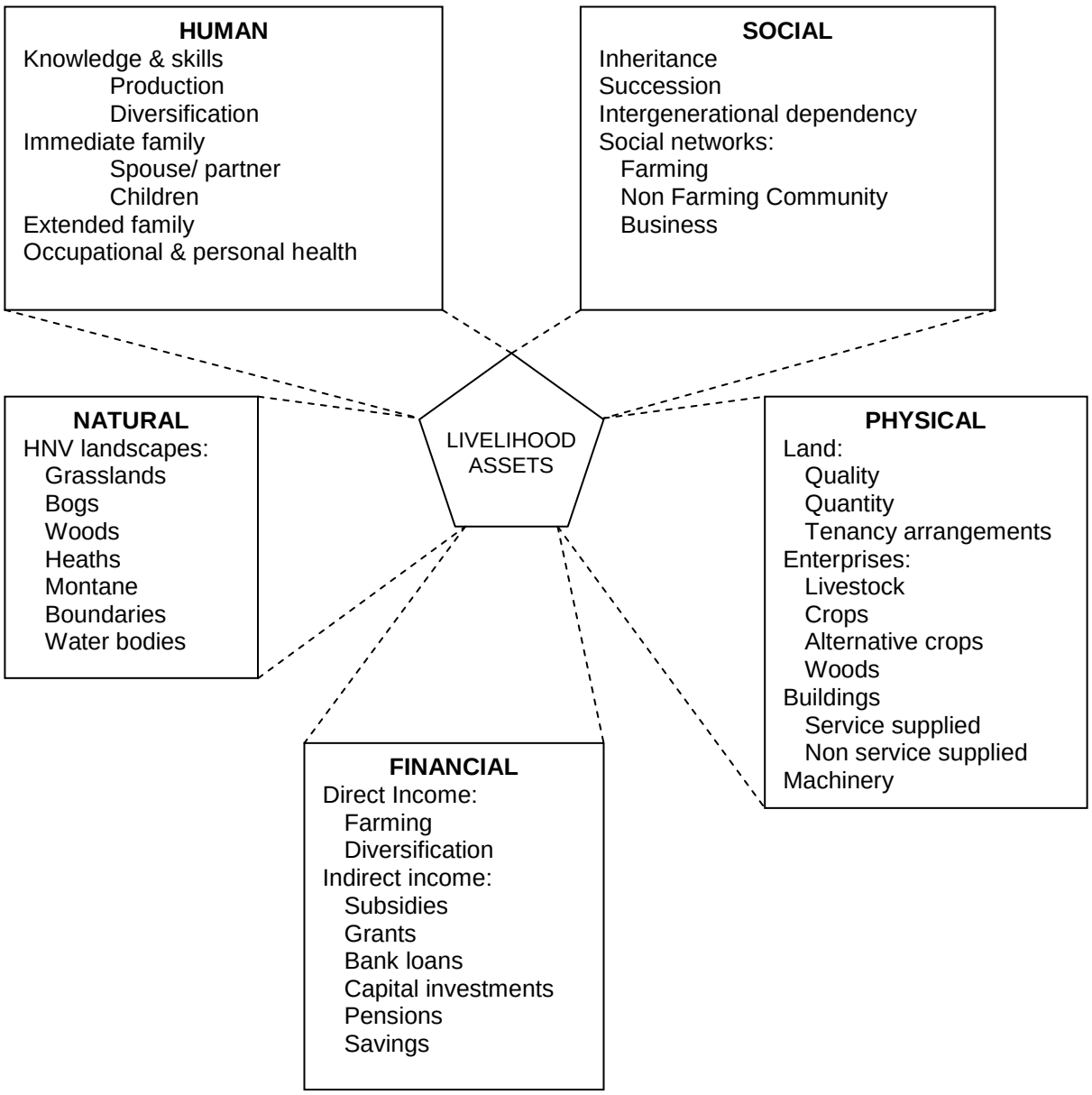
Constraints – Constraints on the other hand affect an upland farmer's ability to exploit any new agenda that is emerging. A number of them can be identified:

- Declining human capital – less people to work the land
- Lack of financial capital - no money to invest in new ventures
- Lack of appropriate new knowledge and skills – new skills for new agendas are difficult to obtain or not recognised as important
- Poor market valuation of non market goods – does not 'incentivise' farmers
- Inadequate public understanding – there is still a lack of perception that farming creates the countryside the public enjoy in many upland areas

Once vulnerabilities and constraints are identified sustainable farm business strategies are developed which make upland farming more *resilient* to these, whilst allowing people to maintain their chosen livelihood. To do this the SLA asks people to identify

their *assets* in five main ways: physical, financial, human, environmental and social (Figure 4). The rub is to help farmers, their families and farming communities to recognise the range and depth of what *they* have on an individual basis to draw upon and then provide specific support based on their unique situations. The SLA has only been used once so far to explore sustainable livelihoods in and upland area in the UK. The National Farmers Network (Ponder & Hindley, 2009) worked with 16 farming families in the Peak District to investigate their ability to build greater resilience and sustainability into their livelihoods. A range of constraining factors, shocks and vulnerabilities emerged not untypical of many farming businesses in other uplands.

Figure 4 – SLA Farm Assets



With respect to ecosystem services, we can use the asset planning phase of the SLF to investigate farmers' current and future views and behaviour. Although not directly comparable, the five assets and 4 main ecosystem services do have overlap, for instance:

- Provisioning – physical, human and financial assets
- Regulating – natural assets,
- Supporting – social assets
- Cultural – social, natural assets

In this way we can use a farmer-centred process to investigate a society focused need, which allows farmers to recognise how their choices afford wider benefit.

1.5 Questionnaire Survey

In line with this project, the SLA was deconstructed and applied to the topic of ecosystem service provision on the Bassenthwaite Catchment farm population. A postal questionnaire survey was sent to every farmer in the Bassenthwaite Lake Catchment with a registered management interest.

Questions covering the following topics were included along with a covering letter and ethical consent form (see Appendices for actual copies):

- *General questions about the role of upland farming for society* – how important various issues were and how well informed farmers felt about the topics
- *Vulnerabilities* – external issues which affected their farm business
- *Constraints* – those internal issues that limited the development of their farm business
- *Physical Assets* – provided an overview of farm size and land types (inbye, intake, open fell etc..), enterprise mixes, buildings and machinery and recent changes in any of these
- *Human Assets* – this included the on farm workforce, the role of family on and off the farm, the skills base of the workforce
- *Financial Assets* – specific topics investigated included incomer streams, agri-environment grants and other subsidies, tenancy arrangements, diversification

- *Social Assets* – focusing on the internal farming issue of heft management, local service provision and recreation provision for visitors, the topic of farm succession
- *Natural Assets* – included information about habitat types, perceived public benefits of farm land, woodland cover, soil types and peat coverage, views about profit foregone as a payment mechanism, views about ESA

This allowed a farmer-centred approach to be maintained.

1.6 **Analysis**

The questionnaire responses were analysed using standard qualitative and quantitative techniques where sample size allowed.

Importance-Performance Analysis (IPA) was applied to the following pair of questions:

- How *important* do you think the following will be to secure the future of upland farming?
  Applied on a likert scale of 1 (not important) to 5 (very important) to 24 environmental and wider roles listed in Table 1
- How well *informed*, do you feel about the following topics?
  Applied on a likert scale of 1 (not important) to 5 (very important) to 24 environmental and wider roles listed in Table 1

IPA is an accepted analytical technique typically used by resource managers to analyse client satisfaction about certain provision (Hall & McArthur, 1998). In this situation IPA was applied to a range of ecosystem services upland farming can provide, by asking farmers to judge how important they thought each would be to securing upland farming and how well informed they felt about each topic.

Table 1 – the Twenty Four topics used for the Importance-Performance Analysis

Environmental Roles	Wider roles
Green energy	Halting rural depopulation
Post 2013 ESS developments	Solving succession on farms
Carbon Storage on moorland	Working with the public
Farm wood management	Continuing the heft system
Food Security	Change of LFA designation
Biofuel crops	Expansion of the EU membership
Energy microgeneration	
Grey water recycling	
Rights of Way and open access	
Moorland grip blocking	
Management of habitats and wildlife	
Soil management	
Climate Changes and livestock issues	
Natural England's 2060 upland vision	
Catchment sensitive farming	
Water quality	
Diffuse pollution (incl. slurry & muck)	
Upland entry level scheme	

Using a likert[2] scoring system, an overall average 'importance' and 'informed' score for all the roles can be calculated. These are plotted as two axes on a graph known as an *action grid*. Onto the grid is then plotted each service role using its own average importance and informed scores for all the surveyed farmers. The plotted data then fall into four quadrants (Figure 5):

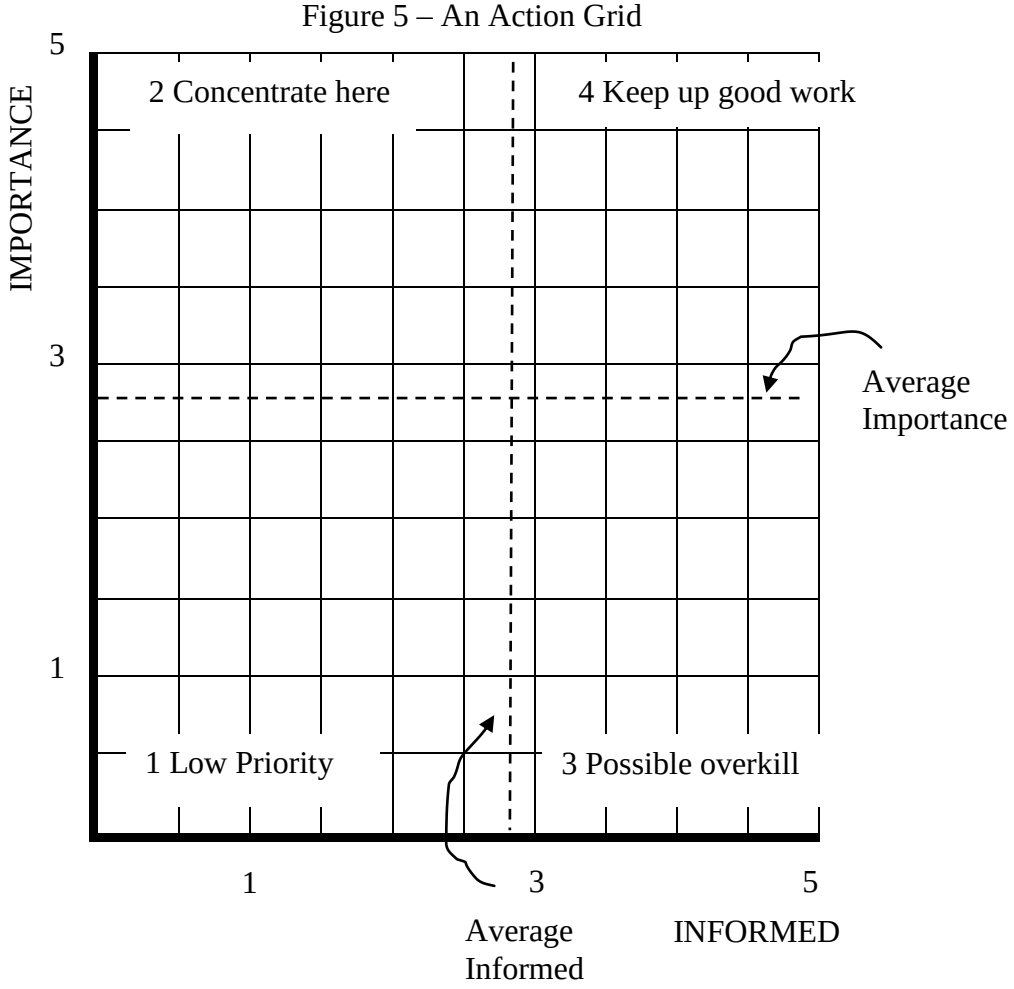
- Low importance – little informed (1)
- High importance – little informed (2)

[2] Likert scoring runs from 1 (not at all or poor) through to, usually, 4, 5 or 6 representing excellent or very good/ important. In this way respondents record their personal views and perceptions.

- Low importance – well informed (3)
- High importance – well informed (4)

These 4 scenarios provide operational guidance on those ecosystem services which farmers think are important and need more information (2), those which already have enough advice and guidance (4), those which farmers perceive to be of little relevance (1) and finally those ecosystem service roles which have too much information and not seen as important by farmers (3).

Figure 5 – An Action Grid



Adapted from: Hall & McArthur, 1998, p210

It is of course crucial when using IPA to consider the varied views of client (in this case farmer) and provider (in this case NE) in relation to what is important and what is not!

2 FINDINGS (results and discussion)

2.1 Survey Response

The response rate for the survey was poor at 10% of the total farming population of the Catchment. This in itself can be interpreted in three ways:

- Farmers were too busy silaging or hay making to take part. However the weather was poor in the survey window.
- Farmers were not interested at all. This had been anticipated and a prize draw had been set up as an incentive.
- Farmers felt the content was too important and put it aside for later contemplation. There was no evidence of this.

An attempt was made by Natural England staff to engage more farmers through a phone call, but this generated only 2 more responses.

Despite this poor response rate (postal surveys usually get about 15%) the range of data gathered was rich and gives various indicative responses which could be followed up at a later date (see section 5).

2.2 General Farmer Views

All farmers surveyed saw their work as providing benefits for society. The most common benefit was the *provision of a food supply* (60%) followed by that of *preventing the land from turning to wilderness* (40%). Average benefits revolved around providing a *world class landscape for tourism* and *employment opportunities*. Other ad hoc benefits mentioned included: maintaining stratification, increasing agricultural land, resource management and maintaining habitats.

These responses suggest a fundamental perception of upland farmers as productionists first and foremost. Their overall view is that without them landscape quality would degrade. This is at odds with the increasing shift in agricultural policy geared towards rural development and environmental management agendas, and the Natural England upland vision for 2060 of a more diverse multifunctional landscape.

These general views were to a certain extent, backed up by the results of the Importance-Performance Analysis (IPA) which considered how important and how

well informed the Catchment farmers felt about a range of options which could help secure the future of upland farming.

Figure 6 shows the IPA for all 24 topics. On first inspection it would seem that the majority of topics fall within the 'highly informed' right hand side of the graph, with a roughly equal division between those topics which are at overkill in terms of message and those which are just right. The only topic which farmers felt was important but they were ill informed was in relation to ***food security***.

However, the cluster in the bottom left of Figure 6 is interesting (low importance – little informed) as it includes all the ***energy issue*** topics, as well as the ***post 2013*** agenda, ***expansion of the EU*** and just ***moorland grip blocking***. The latter of these is probably more the fact that 50% of the farmers surveyed had peat of less than 10cm on their land.

If the topics are then divided into the environmental and wider roles of upland farming, a more informative pattern emerges. With respect to the environmental topics, Figure 7a shows that importance and knowledge are appropriate or overkill for all of these, bar the ***energy issues*** and ***food security*** again. Figure 7b, however, shows that for the wider roles ***halting rural depopulation***, ***changes in the LFA boundary*** and ***solving succession*** (just) need more attention.

These responses raise several possibilities:
1) are the respondents simply unaware of the future issues farming will face with respect to peak oil
2) they feel they will not be affected
3) they are reverting to type – ie relying on good stock prices at the moment

Farmers were asked to highlight three topics they would like to know more about and how they would like the information presented to them. The topics of choice included (numbers in brackets):

- Natural England 2060 vision (3)
- Post 2013 ESS developments (2)
- Water quality (1)
- Grey water (1)

Figure 6 – All Roles IPA

GE – green energy
CS – carbon storage on moorland
FS – food security
EM – energy microgeneration
RW – rights of way & open access
MHW – maintaining habitats for wildlife
CC –climate changes and livestock issues
2060 – Natural England's 2060 uplands vision
CSF – catchment sensitive farming
DP – diffusion pollution (incl. slurry & muck)
HRD – halting rural depopulation
WP – working with the public
P2013 – post 2013 ESS developments
FWM – farm woodland management
BC – biofuel crops
GR – grey water recycling
MG – moorland grip blocking
SM – soil management
WQ – water quality
EU – expansion of the EU membership
UELS – upland entry level scheme
LFA –change of LFA designation
SS – solving succession on farms
CHS – continuing the hefting system

Figure 7a – Environmental Roles IPA

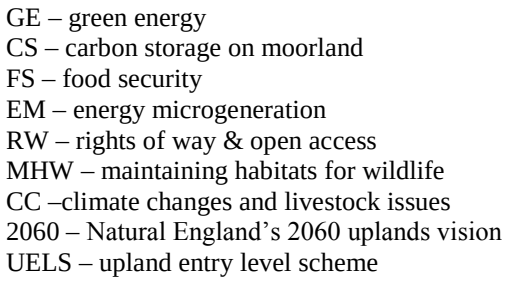
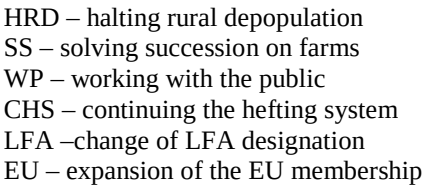


Figure 7b – Wider Roles IPA



- Energy microgeneration (1)
- Biofuels (1)
- Green energy (2)
- Soil management (1)

For these responses evening talks (4) and leaflets (7) were seen as best delivery mechanisms, with only 1 respondent suggesting agricultural shows.

In all, then, the following topics need more work in terms of awareness raising and solution development:
Food Security
Alternative energy generation
Halting rural depopulation
Changes in the LFA boundary
Solving succession

There is also need to maintain communication about:
Managing Habitat & Wildlife
UELS
Climate Change and livestock issues

It would seem therefore, that for this sample of farmers provisioning ecosystem services remain the most important along with those assets which allow productive livestock farming to continue.

2.3 Physical Assets

Physical assets on upland farms include: stock, land, machinery and buildings.

This pilot survey accounted for 697 ha of inbye land, 5 ha of intake along with 2462 head of stock and 206.5 stints on open fell. Most farms (60%) were beef and sheep enterprises, the rest were a mix of sheep or beef only, and one farm had sheep, beef and dairy.

Only two farms had added land to their holding in the last five years, the rest had stayed the same. With respect to stock changes, the majority of farmers had maintained stocking levels, however, the main reductions on 30% of farms was the loss of suckler cows. A range of reasons were given for these changes not untypical of most upland farms (see section 3.5 below).

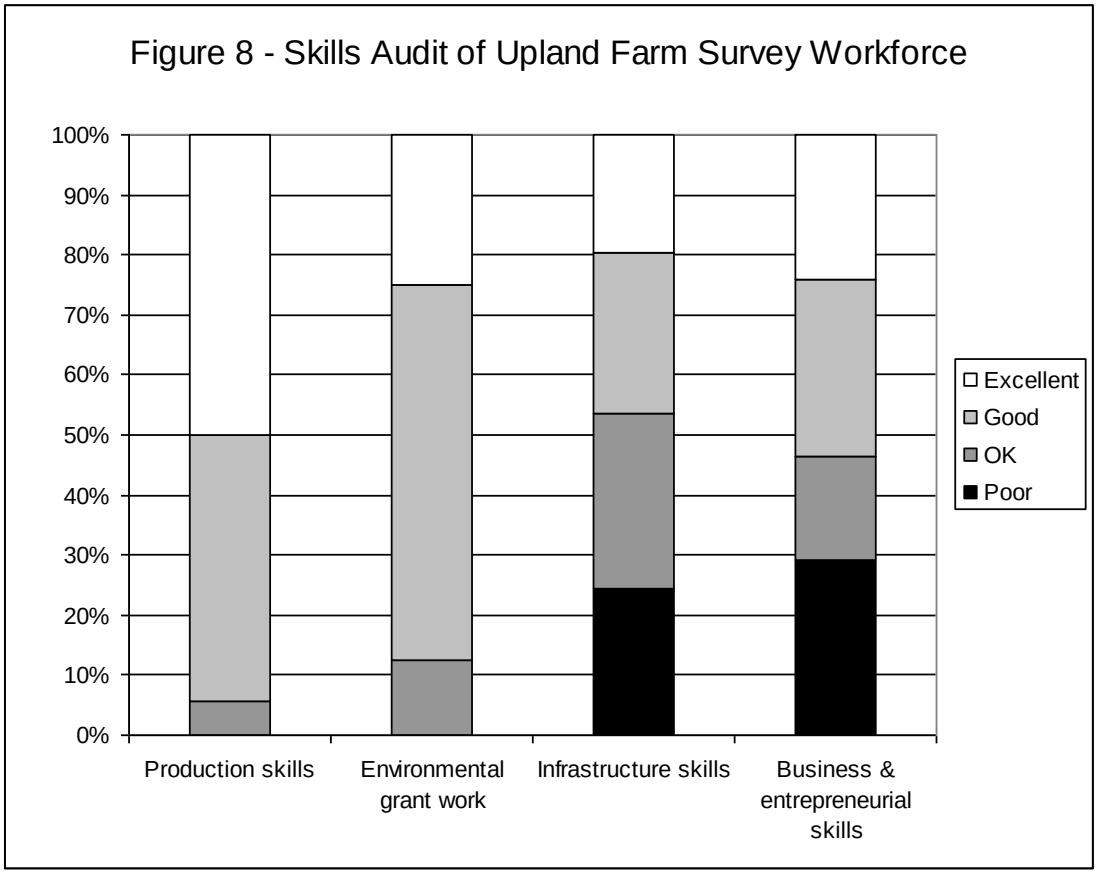
With respect to machinery and buildings, machinery has been exploited the most through direct sell off of redundant items (40%) or contracting it to others (30%). Buildings were less utilised, mainly due to constraints with money or tenancy agreements.

2.4 Human assets

Eighty percent of farms employed at least one person full time (over 75% of hours available). This is interesting because by official European standards very few upland farms are considered full time operations (ref). All these farms were supported by substantive unpaid part time assistance (25 to 75% hours available) and 90% with casual help at periods of bottleneck. Casual help was completely focused on tasks related to livestock production such as stock management, estate maintenance (fencing etc..) and forage production. Few farms had paid part time assistance (30%).

Eighty percent of farms had at least 2 people working on them. However, 50% of these were over 40, an age when most upland farmers believe the job gets too physically demanding to continue full time (Mansfield & Martin, 2005). At least 60% of the farmers had children living on the farm, but only 40% had an identified successor.

In general, the respondents felt that skill levels available amongst their workforce for various farm activities where good or excellent (59.2%). Direct production skills (farm tasks and stock breeding) were seen as the best skills they had. Business and entrepreneurial were the least developed (Figure 8).



Production skills includes: farm tasks, stock breeding

Infrastructure skills includes: hedglaying, drystone walling, fencing, plumbing, electrical

Business & entrepreneurial skills includes: doing accounts, internet, food preparation skills, innovation, entrepreneurism, willing to take business risk

Despite this pool of labour, shortage of labour was seen as the second greatest reason for lack of diversification.

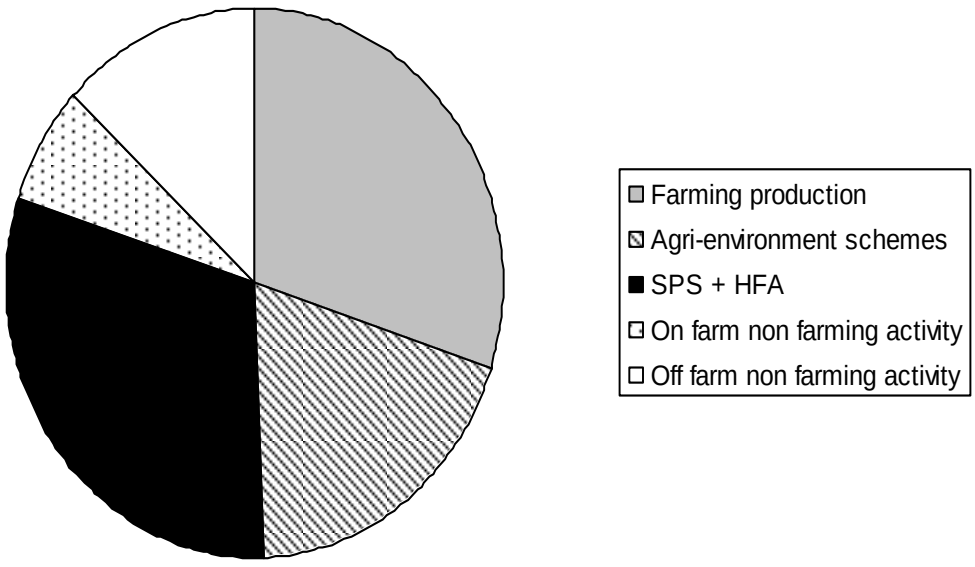
2.5 Financial assets

Tenancy arrangements on farms varied. Sixty percent of farms were owner occupied in their entirety[3]. Only one farm was completely 100% tenanted land. The others were a mix of tenanted and owner occupied, running from 10 to 60% of tenancy to 40 to 90% owner occupied. Only one tenanted farm has seen a rise in their rent which had caused financial pressure and limited business development.

[3] Upland farmers do not see their common land as part of their farm, thus tenancy classification is only for inbye, intake and sole owned grazing land above the fell wall.

The farm businesses in this survey drew their income from five main sources. Farming production accounted for, on average, 30% of income as did SPS+HFA payments. Diversification (if agri-environment grants are included) accounted for just under 40% (Figure 9). Agri-environment grants alone accounted for an average of 19% of income. However, within the sample there were extremes, with one business obtaining all its income from off farm (is this therefore a farm?) through to one which drew 60% of its income from farm production. All businesses, bar one, had developed multiple income streams.

Figure 9 - Percentage Income of Farm Businesses from Various Sources



None of the farms surveyed had contracts with supermarkets or wholesalers. Only two farms were members of quality accreditation schemes, of which both were in FABBL, which led to time consuming inspections, but did allow direct selling to abattoirs.

Respondents were also asked to comment on visitor accommodation on their farms. Only 40% of farms had some form of this evenly split between self catering and bunkhouse facilities. Occupancy rates ranged from 60 to 90%.

3.6 ***Social assets***

Social assets focused on activities which required co-operation with others (ie hefting), use of local services and provision of recreation for visitors.

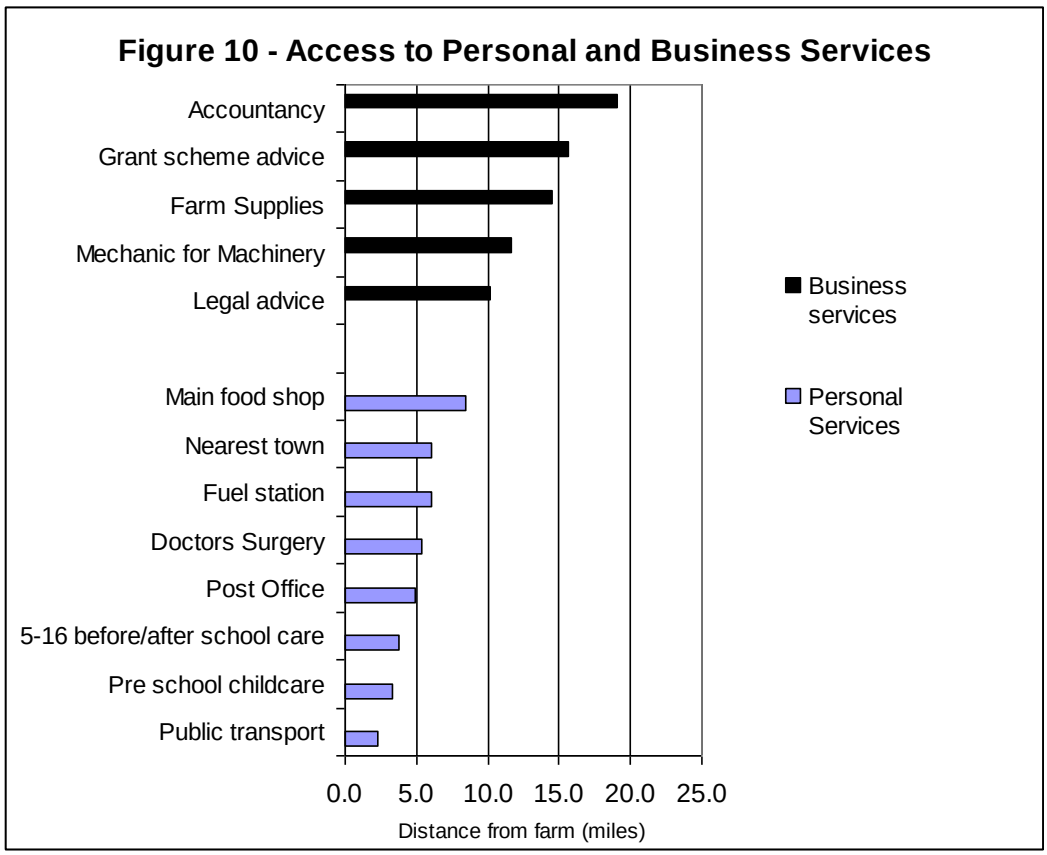
Farms with or without hefts were equal (50% of each). Of those farms with a heft 80% felt that hefting had become harder in the last five years. The two main reasons given for this were:

- **Recent restrictions on stock** – too few, heather & gorse encroachment, restrictive prescriptions, national prescriptions inappropriate, off wintering means stock are loosing heft instinct (65%)
- **Changes in heft management knowledge** – including neighbours too old, lack of motivation to run hefts, lack of knowledge in remaining farmers (35%)

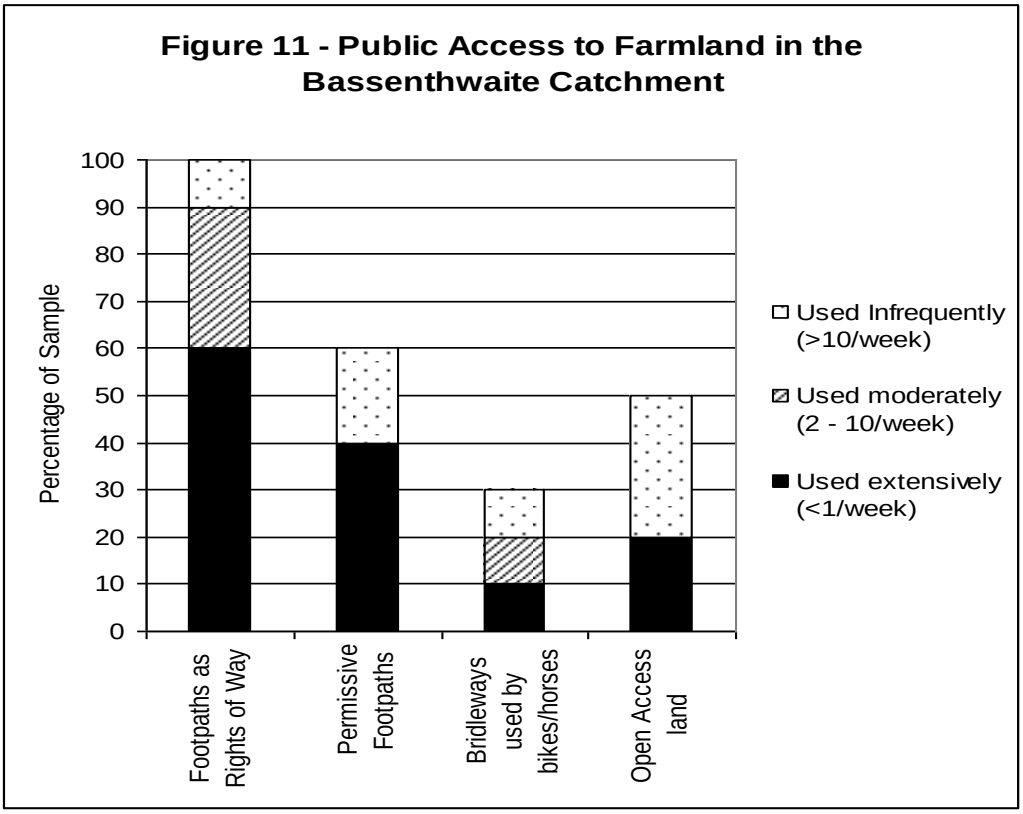
This was backed up by tangible evidence of heft abandonment (2 cases) and obvious stock reductions (4 cases). Whilst there was some evidence that these activities had caused management issues, there were benefits as well. There was an acceptance that grazing quality and habitats/ wildlife had improved somewhat, and in 2 cases evidence that stock quality had improved.

The analysis of local services provision is shown in Figure 10. Business services were less accessible than all personal services. Day to day services were closer to farms than those needed less frequently. All respondents felt that distance to any services had not hindered their farm diversification opportunities.

Whilst there are many services provided for visitors in the Bassenthwaite catchment, this survey focussed on land access and the value of uplands for public health. All farms had footpaths as public rights of way (RoW). Sixty percent had permissive paths and/or open access land. Only 40% had bridleways crossing their land. Footpaths as RoW were the most regularly used by the public, with 60% of



respondents observing at least 10 occasions in a week when the public used a route on their land. Other parts of the network were used less frequently as Figure 11 shows.



Respondents were also asked to comment on their experience of the public crossing their land. On the whole, this was positive; however, a few farmers noted various less desirable infrequent experiences including:

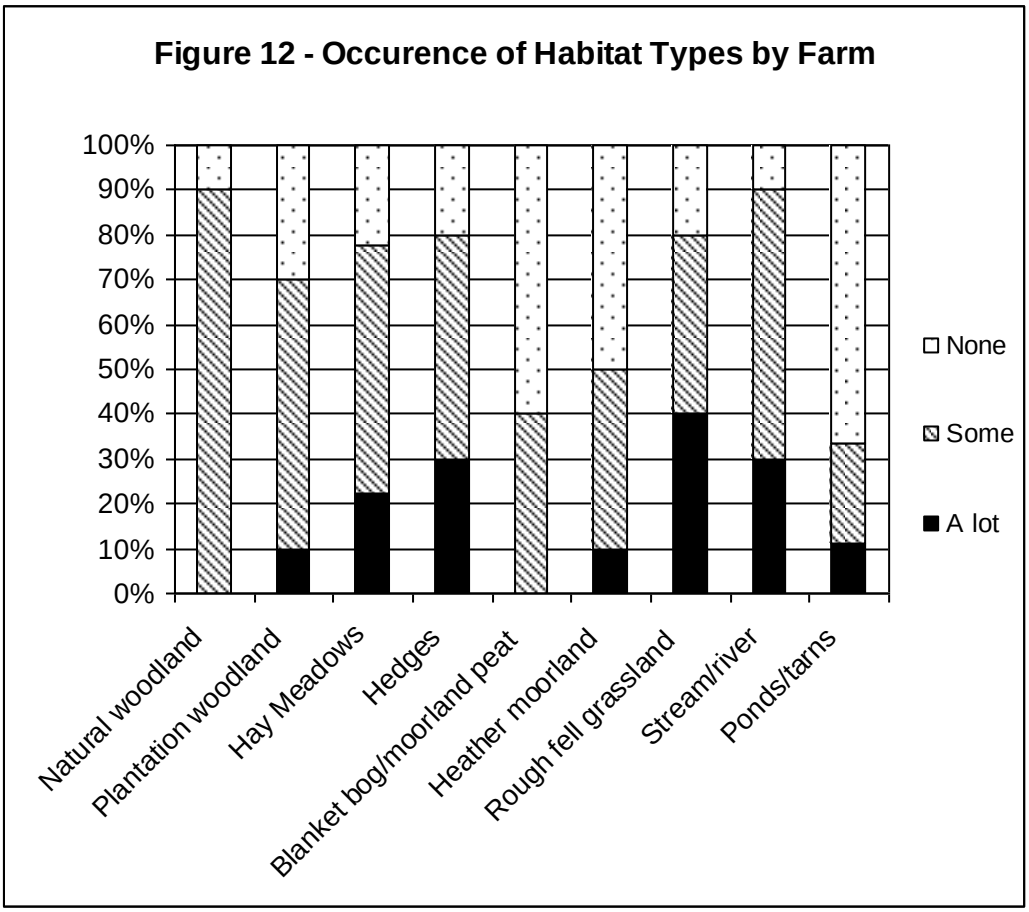
- A small number thinking they can go where they like
- People cutting corners across fields or over walls
- Mountain bikers getting 'snotty' when re-directed
- Issues of litter
- Gates left open

These experiences tended to colour respondents views towards the Government's campaign to get more people out into the countryside for health reasons. Some farmers did not want anymore people crossing their land and felt that there were enough access areas already in the Catchment (30%). Others saw more access as an opportunity either to 'cash in' or educate the public about farming. There was some concern that more maintenance was needed some paths needed upgrading to bridleways and more effort was needed to remove gates and replace them with stiles. These latter two points seemed to infer that respondents thought it was someonelses' responsibility to do this, rather than theirs, or could simply be an indirect request for more funding for these activities.

3.7 ***Natural assets***

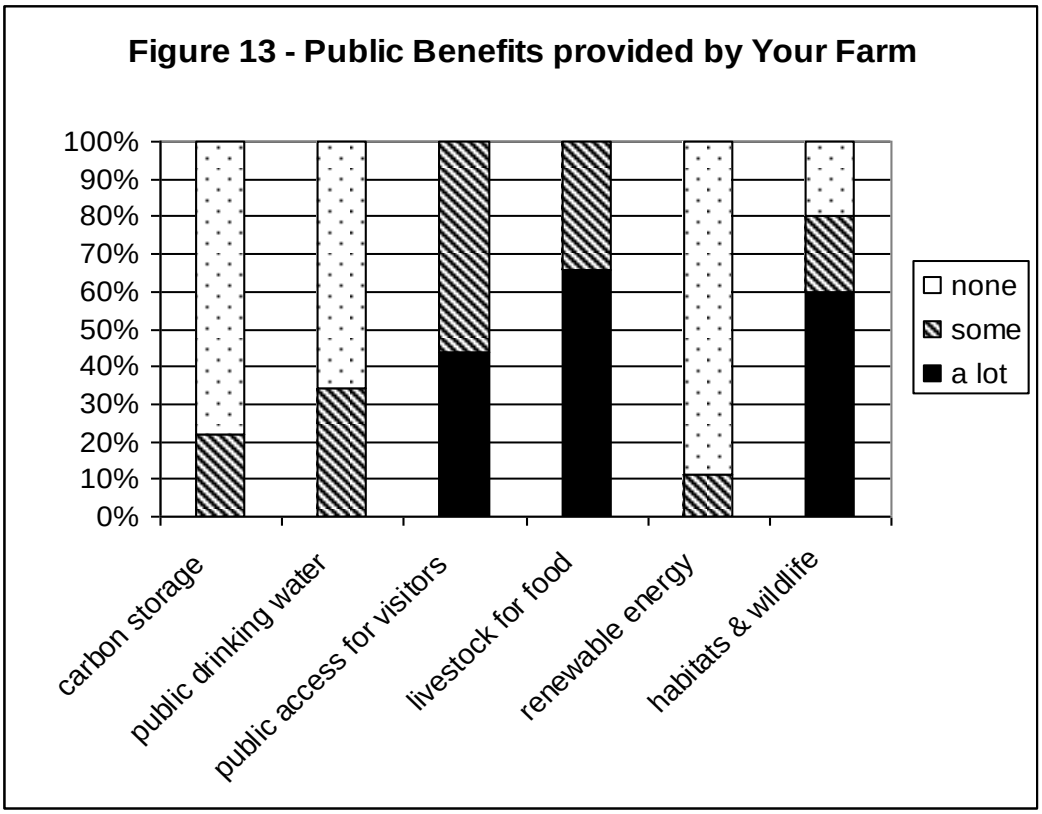
This asset includes information about habitat types, perceived public benefits of farm land, woodland cover, soil types and peat coverage, views about profit foregone as a payment mechanism and views about ESA specifically.

The results of a simple farm habitat resource audit are shown in Figure 12. They are noteworthy because they demonstrate that a substantial proportion of the farms do not contain the archetypal habitats of blanket bog and heather moorland. Instead woods are the greatest occurring habitat (by farm occurrence not necessarily by area).



Respondents were asked to consider what public benefits their farms provide for people. Figure 13 shows that farmers recognised the three most established benefits of access, food and wildlife more than the newer benefits of carbon storage, renewable energy and drinking water. It would suggest that about 20 years is needed for new ideas to become commonly accepted!

All farms in the survey have some form of woods. All farms have at least 2 blocks with 9 having at least 3. One farm has 18 separate parcels. Sizes range from 0.5ha to 23 ha, with a mean of 5.8ha. There is an even split between recently planted woods (post 1980) and those which have been on the farm for at least 2 generations. Only one respondent identified an ancient woodland on their land. Twenty percent of farmers did not manage their woods nor extract timber/ fire wood; whereas 40% did actively manage and extract from their woods. The rest managed and extracted on an ad hoc basis.



Finally, farmers were asked to consider the character of the soil as a natural asset. A surprisingly large percentage of farms supported high levels of loam or clay soils. Peat and thin soils were uncommon. This somewhat contradicts the data gathered about peat underlying hefted land, which showed that two farmers hefted on land with extensive peat deposits. Forty percent of farmers also recognised deposits thicker than 50% existed on their managed land somewhere. These contradictions reflect the way in which farmers perceive their open fell land – as not part of the farm.

3.8 **Constraints & Vulnerabilities**

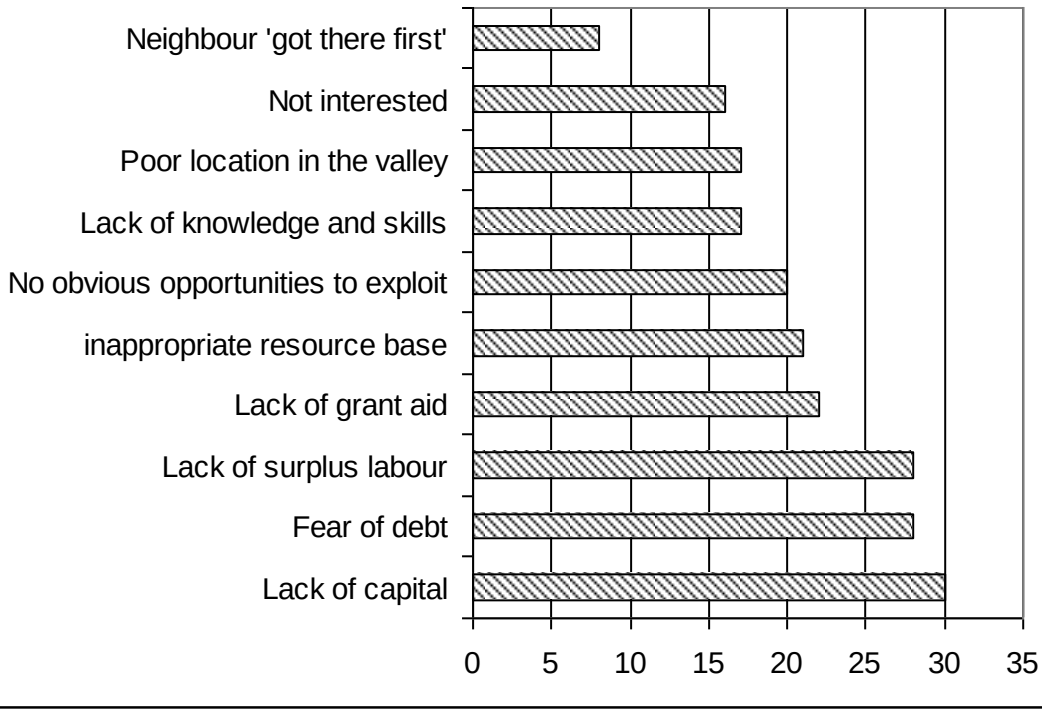
Respondents in this survey identified few constraints and vulnerabilities directly. Reduction in stocking was seen as a combination of the two. Stock numbers hasd dropped because of

- Loss of labour
- Suckler cows lost due to rules
- Fodder costs
- Letting of inbye in summer

Figure 14 shows the importance of various constraints on farm diversification. The higher the 'score' the greater a farmer perceived it as a constraint. Lack of capital, fear of debt and lack of surplus labour were seen as the three greatest limiting factors. Suprisingly lack of grant aid was mid range, with valley location and 'neighbours getting their first' not really seen as important. No farmers felt that distance from services harmed their ability to diversify.

In relation to visitor accommodation, constraints were perceived in relation to lack of labour and an inability to find ways to fill the mid-week spaces.

Figure 14 - Constraints on Diversification Opportunities



*** possible maximum score was 50**

3 CONCLUSIONS AND RECOMMENDATIONS

The concept of ecosystem services is new to rural land managers, however embedded within it are a number of services which are recognised, valued and managed by farmers. These are :

Provisioning services – food and timber,

Regulating services – indirectly through habitat management

Supporting services – biodiversity

Cultural services – visitor access and accommodation

After this, many of the newer forms of service are less well understood. The IPA and assets survey here suggests that farmers need and would like to know more about the following topics:

- food security
- alternative forms of energy
- the 2060 Vision
- mechanisms to maintain upland farming
- Post 2013 changes to ESS
- Expansion of the EU membership
- Grey water recycling
- Carbon storage

Lack of capital, fear of debt and lack of surplus labour are seen as constraints to diversification of farm businesses.

Recommendations

- Expand just the IPA survey to elicit more feel for knowledge and needs amongst farmers
- Develop awareness campaign on topics listed above
- Consider the appropriateness of evening talks and leaflets as dissemination mechanisms

NB this is small sample response so these results should be treated with caution.

APPENDIX

Questionnaire survey and related documents

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