



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

THE PONTBREN PROJECT



THE FARMERS' EXPERIENCES & LESSONS LEARNT

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LIST OF ACRONYMS

WG	Welsh Government
RDP	Rural Development Programme
CAP	Common Agricultural Policy
WRO	Wales Rural Observatory
FWPS	Farm Woodland Payment Scheme
CCRI	Countryside and Community Research Institute
FRMRC	Flood Risk Management Research Consortium
WCVA	Welsh Council for Voluntary Action

EXECUTIVE SUMMARY

This report details research undertaken by the Wales Rural Observatory in 2013 to evaluate the experiences of the Pontbren farmers, in their attempts to improve the sustainability of their farm management over the last twelve years, and the benefits gained through the support offered to them by the Welsh Government during this time.

The Pontbren Group consists of ten neighbouring families who farm a thousand hectare contiguous block in the catchment of Nant Pontbren near Llanfair Caereinion in North Powys.

Their objectives include:

- Sustainable farm management (now and for the future).
- Improved livestock shelter
- Farm business diversification
- More effective integration of agriculture and woodland management
- Creation of wildlife habitats
- Production of timber for on farm use and for added value processing
- Enhancement of the upland landscape

They have attempted to achieve these objectives through:

- Stock reduction
- Environmental enhancement – planting shelter belts, new hedgerows and creating a network of ponds.
- Production of timber and added value wood products, including firewood, woodchip bedding material and locally grown tree seedlings of native provenance.
- Niche marketing of farm produce via a Pontbren producer group, at farmers markets and through a supermarket contract.
- Business monitoring through the Farm Business Survey.

In addition, a range of research work has been undertaken with the farmers during the last twelve years to evaluate the impacts of the changes they have made. This includes research by the Flood Risk Management Research Consortium (FRMRC); Welsh Government funded work on water quality; numerous Research and Development (R&D) projects and PhD studentships, including a number of social science and policy evaluations.

In light of the multiple benefits emerging, the Welsh Government (WG) provided financial support for the project through destocking payments, and ‘top up’ payments to the Farm Woodland Premium Scheme (FWPS) and Woodland Grant Schemes.

This Welsh Government funding was used to match-fund an Enfys Lottery grant, which provided the funding for the main project period¹.

¹ Further details of the funding are given in section 4 in table 4.1.

Research Objectives

As the destocking element of the Pontbren Project has now ended, WG commissioned a further evaluation to determine the impacts of the project from the farmers' perspective and to identify key policy lessons to take forward for the next RDP and current CAP Reforms. For example, whether technical amendments should be made to the existing Glastir woodland schemes to make them more fit for purpose, or if the farmers' experiences could be used to inform wider RDP support mechanisms for the agricultural sector. This is the purpose of this report undertaken by the WRO; specifically this evaluation is intended to:

- Determine what the farmers think the benefits and problems of the project have been for them – lessons they have learned or think others should learn.
- Look at the 'behavioural change' of the farmers involved over the whole period since the project started in 2002, building on the Countryside and Community Research Institute (2008) Report.
- Consider if the Pontbren project has had any impact on 'succession' in farm structure in terms of changes in the head of holding or how farms are organised.
- Determine how the views and attitudes of the Pontbren farmers have changed over the life of the Pontbren project.
- Record farmers' views on the R&D activity and additional benefits to their farms – via Flood Risk Management Research Consortium newsletter, presentations and regular contact with the R&D community.
- Determine what benefits the farmers think they have gained through the Farm Business Survey service, which was provided to them.
- Determine if the farmers think the project helped them to improve and diversify their income.
- Determine what contribution the farmers think they have made to WG policy development.
- Determine what the farmers think the lessons learned from the Pontbren project could be for CAP reform and the development of the next Rural Development Plan.

Methods

- A review of existing literature.
- Individual interviews with each farmer in the Pontbren group.
- A group discussion with all of the farmers.
- One-to-one interviews with other individuals involved in the project's development.
- Evaluation of data on destocking, agri-environment and Farm Woodland Premium Scheme participation and payment levels.

Detailed Results are provided in the full report covering the following points:

- Benefits and Problems
- Impacts of Farm Business Survey
- Farm Succession Planning
- Behaviour and Attitudinal Change
- Impacts of R&D Activities
- Policy Impact

Conclusions and Recommendations

Overall the Pontbren Project has been a very positive experience for the farmers involved, exposing them to new ideas and experiences, and creating substantial opportunities for them to develop innovations in their farm businesses. As a consequence of the environmental work they have undertaken, a number of benefits have also been realised for a range of beneficiaries beyond the farms. Whilst they have experienced some disappointments, their successes have been such that it is important to reflect upon how other farmers can be supported to develop similar projects.

- In the first instance, it is important to reassert that no existing schemes have enabled them to do what they wanted to do, and this is why they turned to the option of lottery (Enfys) funding. Detailed messages on their concerns with the schemes are detailed in Section 4.6 'Policy Impacts' of the full report; these can be distilled in the farmers' strongest message: to keep farm schemes simple.
- The farmers feel that they have produced more beneficial outputs through the Enfys funded work than they see being achieved by standard agri-environment schemes. This perspective on the lack of 'additionality' of other schemes has been supported by official evaluations (WAO 2007).
- The farmers would not have been prepared to undertake this work without the flexibility and autonomy afforded to them by the Enfys grant and WG funding. Their control over the project, and particularly the ability to design environmental works that were perceived to be appropriate to their farming systems rather than following a pre-designed scheme template, were key factors in their success.
- Farmers' desire for independence and their frustrations with administrative and regulatory burdens are well known as reasons for their lack of engagement with agri-environment schemes (WRO 2012). This can include issues of rigid timing and budgeting frameworks for schemes as well as broader design points (detailed in section 4.6 of the full report). The Pontbren Project has been successful because it has worked around these problems.
- The project has worked from the starting point of the farmers' priorities, and been driven forward by their aspirations. Their ownership of the project has

ensured much greater involvement and co-operation than would otherwise be the case if they were led by external agents.

- The fact that multiple benefits have been achieved in synergy demonstrates that it is possible to work with farmers' production priorities to achieve other outcomes. This does need to be balanced, and is not intended to suggest that intensification of production should be considered as a primary goal above all else. But it does show that it is not worth pushing against people when there are opportunities to work together on aligned goals.
- The farmers have learnt a lot from the project, and their attitudes and behaviour have changed in some areas - particularly in relation to stocking densities and their understanding of catchment hydrology. This demonstrates the importance of first-hand experience and their interaction with scientists over the course of the project. Nevertheless, it is evident that the project has not fundamentally altered existing behavioural patterns or values. Rather, it has supported and enabled the farmers to develop characteristics and inclinations that were already present.
- As the project has demonstrated that supporting farmers can create wider benefits, the Pontbren group see their case as evidence that there is a recognisable function for farming, within the rural economy and society more broadly, and that they should be supported in this role.
- The group dynamic has been critical in the formation of social capital which has reinforced the farmers' enthusiasm for the project, motivated them to work to high standards, and provided a support mechanism in more difficult times. This social element has been key to unlocking and multiplying the benefits of the project.
- Working in co-operatives is not common-place in farming culture within the UK, but given the benefits realised at Pontbren further promotion of co-operative working is needed to support environmental and economic ends (Franks and Emery 2013; CCRI 2008). Co-operative working will not be appropriate for all farmers and should not be seen as a panacea, but those who are willing to engage should be provided with more support.
- Group work is particularly important to achieve environmental benefits across a catchment and on a landscape scale. Within the Pontbren Project, landscape benefits have emerged but were not planned through collaborative group mapping.
- The farmers remain cautious about catchment level planning, and particularly concerned about the steer of external agencies who would encourage trade-offs between environmental and production outcomes. For catchment level management to work, suitable incentives secured over the long-term will be needed. In addition, on-going research and knowledge exchange is required with the farmers to design appropriate mechanisms for the delivery of ecosystem services.

- Access to skilled and trusted facilitators is essential for successful group working. As Keenleyside (2013) also outlines, these support staff need to have expertise and understanding in both farming and environmental issues; as well as being sensitive and adaptive to farmers' needs. In future, the group could benefit from more support with their core farm businesses, as advisory support has centred largely on environmental concerns to date.
- Their experience with meat marketing suggests that producer co-ops and value-added branding are not the solution for everyone (see also WRO 2012). Whilst they have learnt from the experience, ultimately they feel they cannot trust supermarkets and that power and competitive differentials are often not stacked in their favour. Similarly, selling to local markets was not successful in their area, due to a poorer demographic meaning that demand for niche produce was lower. This raises questions about the most effective options to pursue in coming years to ensure resilient supply chains. Some members of the group have continued to sell produce direct to an established customer base, but this has a high labour cost which has meant it was not appropriate for everyone.
- In relation to their farming systems, whilst the need for lower stocking densities and lowering input costs is now more accepted amongst the group, it is also clear that they perceive an increased pressure for food production coming to the fore once again. In response to these shifting agendas, the farmers stress that policy continuity over the longer term is critical to avoid contradictory messages and incentives.
- Continuity in the availability of payments is a major concern at the current juncture, as work they have done to date is now in need of maintenance to ensure the benefits continue.
- In terms of the research undertaken on-site, there is a lot of potential for Pontbren to continue working as a demonstration site. The need for more applied research is also noted as a wider (Wales-wide) recommendation going forward (WRO 2013). The Pontbren project shows that agro-forestry/agro-ecological application is a key issue to address in this regard.
- Finally, it is important to note that whilst they are a unique group in many ways, lessons from other examples of co-operative working and ecosystem service delivery do complement and reinforce those outlined here (see e.g. CCRI 2008; Wynne-Jones 2013; Wynne-Jones et al. 2013).

SECTION 1: INTRODUCTION

The Pontbren Group consists of ten neighbouring families who farm a thousand hectare contiguous block in the catchment of Nant Pontbren near Llanfair Caereinion in North Powys. They first came together in 1997 as a group of three, who then invited the remaining seven to join in 2001. Over the last twelve years, the farmers here have worked together to take forward innovative proposals to refocus their farming methods as a means to provide a more sustainable system of agriculture.

Their objectives include:

- Sustainable farm management (now and for the future).
- Improved livestock shelter
- Farm business diversification
- More effective integration of agriculture and woodland management
- Creation of wildlife habitats
- Production of timber for on farm use and for added value processing
- Enhancement of the upland landscape

They have attempted to achieve these objectives through:

- Stock reduction
- Environmental enhancement – planting shelter belts, new hedgerows and creating a network of ponds.
- Production of timber and added value wood products, including firewood, woodchip bedding material and locally grown tree seedlings of native provenance.
- Niche marketing of farm produce via a Pontbren producer group, at farmers markets and through a supermarket contract².
- Business monitoring through the Farm Business Survey

An additional benefit of the Pontbren project that became apparent during the course of the tree planting work was the improvement to soil structure and the subsequent impact upon catchment hydrology. As a result of observations initially made by the farmers' and Coed Cymru staff in 2001 (after initial planting stages), detailed research work was then undertaken by the Flood Risk Management Research Consortium (FRMRC)³, with the project site providing an ideal field-study location for

² Some members have worked together to sell their produce direct to a local farmers' market and the wider group have attempted to secure a supermarket contract for their produce as a co-operative but they have not been successful in this venture.

³ CEH at Bangor conducted initial scientific monitoring (Bird et al. 2003) which provided early indications of interest and the need for further study. In 2004 the FRMRC conducted a comprehensive literature review supporting the need for further detailed study. The FRMRC then conducted this research from 2004-2011, with additional measurements taken in 2012 (this included work on sediment transport as well as hydrological monitoring); additional research on biodiversity has also been undertaken and further work is now underway on aquatic biodiversity.

research on a catchment scale. Pontbren has also been a site for Welsh Government funded work on water quality and has been linked to numerous other R&D projects and PhD studentships (e.g. HCC 2008; Henshaw 2009; Solloway 2012). Of particular note is the work of Dr. Tim Pagella at Bangor University who was involved in the development of the GIS landscape visualisation tool 'Polyscapes', with the input of the Pontbren farmers, to support landscape planning and adaptation measures (Jackson et al. 2013; Pagella 2011a).

In light of the multiple benefits emerging, the Welsh Government (WG) recognised the strategic gains that could be delivered by the Pontbren group, in terms of integrated farming and forestry in upland areas of Wales and the value of co-operative working. In particular, it was thought that the project could provide useful lessons for the development of agri-environment schemes and wider rural development. Consequently, WG has provided financial support for the project through destocking payments, and 'top up' payments to the Farm Woodland Premium Scheme (FWPS) and Woodland Grant Schemes⁴. This Welsh government funding was used to match-fund the Enfys Lottery grant, which provided the funding for the main project period⁵.

Running alongside the research projects outlined above, a number of interim and small-studies have also covered some aspects of the project's development from a social science and policy perspective (CCRI 2008; Keenleyside 2013). As the destocking element of the Pontbren Project has now ended, WG have commissioned a further evaluation to determine the impacts of the project from the farmers' perspective and to identify key policy lessons to take forward for the next RDP and current CAP Reforms – this is the purpose of this report undertaken by the WRO.

⁴⁴ These later grants are administered through the Forestry Commission.

⁵ See table 4.1 for more details on the project's funding.

Research Objectives

The objectives of this evaluation are to focus on the opinions and experiences of the Pontbren farmers. Specifically, it is intended to:

- Determine what the farmers think the benefits and problems of the project have been for them – lessons they have learned or think others should learn.
- Look at the ‘behavioural change’ of the farmers involved over the whole period since the project started in 2002, building on the CCRI (2008) Report.
- Consider if the Pontbren project has had any impact on ‘succession’ in farm structure in terms of changes in the head of holding or how farms are organised.
- Determine how the views and attitudes of the Pontbren farmers have changed over the life of the Pontbren project.
- Record farmers’ views on the R&D activity and additional benefits to their farms – via Flood Risk Management Research Consortium newsletter, presentations and regular contact with the R&D community.
- Determine what benefits the farmers think they have gained through the Farm Business Survey service, which was provided to them.
- Determine if the farmers think the project helped them to improve and diversify their income.
- Determine what contribution the farmers think they have made to WG policy development.
- Determine what the farmers think the lessons learned from the Pontbren project could be for CAP reform and the development of the next Rural Development Plan.

SECTION 2: METHODOLOGY

In the first instance, a review of existing literature (as detailed in the next section) was undertaken to ascertain the material available to address the questions outlined by the Welsh Government, and provide wider contextual data to compare the specific insights from Pontbren against. This also enabled a timeline and overview of the project's history and activities to be established as a means to inform the subsequent interview phase of data collection.

Individual interviews were conducted with each member of the Pontbren group (and their family if they deemed this to be appropriate), following the interview schedule shown in the appendices. Questions were designed to cover all of the key issues requested by the Welsh Government. A semi-structured interview approach was employed in order to let the farmers lead the conversation and express their views as they felt fit. This approach ensured that the farmers' experiences could be captured in as much detail as possible and avoided omissions that can otherwise occur if an overly structured approach is taken. Interviews were recorded and transcribed before analysis with the NVivo qualitative analysis software (used to assist with coding and identification of key themes).

After completion and analyses of the individual interviews, a further group discussion was held with the farmers and the WRO researcher in order to feedback and clarify the research findings. In light of the strong steer from the farmers in all aspects of the project's development to date, ensuring their full participation and confidence in the evaluation process was seen to be essential.

One-to-one interviews were also conducted with other individuals involved in the project's development, including staff from Coed Cymru, Welsh Council for Voluntary Action (WCVA) and Flood Risk Management Research Consortium. Given their role in the recent report by Keenleyside (2013), representatives of the Woodland Trust were also interviewed. A full list of interviews is shown in the appendices.

Information on destocking, agri-environment and Farm Woodland Premium Scheme participation and payment levels have also been provided by the Welsh Government, and this data was incorporated into the analysis where appropriate.

SECTION 3: LITERATURE REVIEW

This brief overview of the literature highlights wider resonances between the experiences of the Pontbren group and farmers across the UK (and Europe). Placing their insights and decisions in this wider context provides an important point of reference to evaluate the lessons learnt from Pontbren and demonstrates the broader relevance of their recommendations for national level policy.

The Pontbren Project has been the subject of a number of appraisals since its initiation, including evaluations of both the natural and social science components. Of particular importance to this report is existing literature which includes discussions of the Pontbren farmers' experiences and lessons learnt, with specific reference to policy implications. Key literature addressing such points includes:

CCRI's (2008) 'Evaluation of key factors that lead to successful agri-environment co-operative schemes', which includes the Pontbren farmers as a case-study group. The aims of this research were to identify the challenges to securing successful agri-environment co-operation in Wales; and make recommendations regarding the appropriate policy approaches to achieving successful agri-environment outcomes through co-operative groupings. The research focused in particular upon the importance of social capital and the role of social networks, emphasising the importance of capacity building and appropriate facilitation tools/mechanisms to enable this. The report also explores the interplay of farmer groups with governmental processes and highlights recommendations for the modification and augmentation of rural development schemes to support co-operative initiatives.

'The Pontbren Project' by the Woodland Trust and Coed Cymru (Keenleyside 2013), which provides an important overview of the project's development and key outcomes. This includes insights into the farmers' motivations and the processes involved in the project's development (such as scheme applications, funding sources, partnership working and formal group constitution). The benefits of farm woodland as observed at Pontbren are also discussed, with reference to the work by the Flood Risk Management Consortium (see also Bird et al. 2003; Wheeler et al. 2008). Key policy lessons are outlined, addressing questions of scheme design and associated recommendations for RDP support.

Jackson et al's 2013 research on the Polyscape GIS Landscape Visualisation tool, which creates impact maps to explore trade-offs and synergies amongst ecosystem services associated with the application of land cover interventions. In Pontbren, for example, Polyscapes was used to develop maps showing which parts of the catchment have the potential to provide most benefits for flood mitigation, and sediment and carbon management, while having least adverse effects on farm productivity (see also Pagella 2011a,b). Polyscapes incorporates local knowledge in the development and ground-truthing of algorithms, which inform the operation of the GIS tool. It can also ensure local engagement and knowledge exchange about ecosystem service delivery.

As the subject of this WRO report is upon the farmers' experiences, and associated questions of behavioural change, agri-environment scheme participation and farm business diversification, additional sources on these topics have also been

consulted. These include the WRO's reports on Farmers' Decision Making (2012) and Knowledge Transfer and Innovation (2013), Blackstock et al.'s (2007) Best Practice Guide (for promoting environmental behaviour amongst farmers); academic papers on co-operative working between farmers including Franks and Emery (2013), Slangen and Polman (2002) and Sutherland et al. (2012); and analyses of the Glastir woodland scheme including the Institute of Welsh Affairs' (2012) report on 'Growing Our Woodland in Wales' and Wynne-Jones (2013a).

Overall, this literature highlights a number of key points that resonate with the findings set out in this report; thereby providing wider validation of the insights gained here from the Pontbren farmers' and other stakeholders associated with the project:

- Farmers are more likely to engage if proposed changes work to support the core farm business. This is also, often, a more economically sound approach.
- A mix of approaches is needed to encourage behavioural change, including economic incentives to provide the financial capital that is often required to enable change.
- The use of advisory mechanisms is critical to support farmer groups (e.g. guidance from staff with appropriate expertise, such as Coed Cymru in this case). These should be adapted to farmers' different needs and implement 'human development' approaches which aim to facilitate group action and learning.
- Advisory mechanisms which employ a principle of knowledge exchange have become increasingly popular over more top-down processes that attempt to get across a pre-determined message.
- It is important to ensure that behaviour change programmes are adapted to the locale. This includes using more participatory and bottom-up approaches to problem identification and formulation, as well as ensuring the provision of local examples for farmers to learn from.
- Trust and credibility are critical to the advisory process and to ensure the achievement of behaviour change goals.

Echoing many of these points, specific conclusions and recommendations from previous evaluations of Pontbren (CCRI 2008; Keenleyside 2013) are shown in tables 1 and 2:

Table 1: Conclusions and Recommendations from Keenleyside's (2013) 'The Pontbren Project

- Broadleaved woodland and shelterbelts can make the management of upland farms more efficient, as well as having wider environmental benefits than was previously understood.
- A critical factor in achieving the potential environmental benefits of tree and hedgerow planting is the strategic and well-informed choice of locations, species and management.
- The sometimes unexpected research findings illustrated how important field-based experiments and observations are in understanding complex hydrological and biological processes, and in helping to develop and calibrate computer models that can be used more widely.
- Conventional agri-environment and woodland grant schemes do not have sufficient flexibility to support targeted, site-specific, collaborative environmental initiatives led by groups of farmers and landowners.
- Farmer-led groups who follow the Pontbren model will need access to the services of skilled facilitators and technical advisers who understand the objectives of the farm business on the one hand, and environmental needs and opportunities on the other.

Table 2: Selected Recommendations from CCRI's (2008) 'Evaluation of key factors that lead to successful agri-environmental co-operative schemes'

- Ensure enough flexibility in the scheme to permit local management solutions to develop and to enable re-orientation during the course of the scheme, if necessary.
- Appoint or formally recognise a facilitator for each group, and identify individuals with the right personality, locally-based and respected by farmers.
- Provide facilitators with training in facilitation skills and in participatory and communication methods.
- Offer payments that at least cover the cost of management activities associated with running and belonging to the group (including access to funds for a facilitator and advisory staff).
- Offer capital grants at an early stage and encourage the use of local contractors and suppliers to maximise the socio-economic benefits to the wider local economy.
- Offer two funding packages – a start-up package and a longer term agri-environment scheme management package, following attainment of group legal status.
- Provide farmers with the opportunity to undertake their own monitoring activities.

SECTION 4: RESULTS

Table 4.1: Overview & Timeline of Pontbren Project Activities

Year	Scheme / Funding
1992	Coed Cymru start working with the farmer at Tyn y Bryn; the Farm and Conservation Grant Scheme provided 30% of the funding for early planting, other money came through self-financing.
1997	Agricultural Training Board farm walk at Tyn y Bryn inspires early planting work at Tyn y Fron and Belan. Initially LEADER monies and then Scottish Power Rural Care Scheme provided two years of funding for the next phase of tree planting. Throughout this early phase, and for the continuation of the project, Coed Cymru provided the farmers with technical support services for management plans and did the grant applications, mapping and provided advice on tree planting
2001	Wider group formation: total of ten neighbouring farms *
2002-12	WG funded destocking work on seven farms WG funded the Farm Business Survey to be completed annually on each farm and liaise with the farmers on the findings.
2003	WCVA Enfys funding attained for tree planting and fencing work across all ten farms. Enfys funding match-funded by Welsh Government payments for destocking (for six farm businesses) In addition to the hydrological impact survey, two of the preconditions of the award of the Enfys Grant were : The requirement to look at sociological impact of collaborative working on the farming families – in the aftermath of the Foot and Mouth crisis where rural isolation and stress was seen as an urgent issue The requirement to conduct a ‘before and after’ raptor survey to indicate the rate at which the biodiversity intensity increased as a result of habitat improvements. Farm Woodland Premium Schemes were also agreed for four farm businesses**. Enfys application also led to legal constitution of the group as a co-op***. LEADER (Glasu) monies attained to support tree nursery Welsh Development Agency fund chipper to process wood from thinning work - experiments with bedding and use of chipping (see HCC 2008) CEH Bangor conducted initial study on impacts of planting Producers sold lamb and beef together under the Pontbren brand at farmers market.
2005/6	Producer group development with support of consultant funded by WG – intention to sign a contract with supermarket, but agreement fell through.
2004 - 11	FRMRC research work and regular knowledge exchange meetings between farmers and researchers. WG undertook research on water quality. Farm walks and educational visits on-going to present
2012	Some additional planting at Tyn y Bryn through Glastir Woodland Creation; Melin y Grug and Pen Llywn joined Glastir Entry Level and Melin y Grug chosen for higher level scheme; other farms considering scheme. All farms keen to access funding to maintain existing hedging and plant more.

Notes from table 4.1:

* Although the group include 10 farms, one business is a partnership; hence there are nine farm businesses

**An agreed top-up of £127/ha/yr was also paid for 10 years was in acknowledgement that the FWPS wasn't sufficient to cover the work proposed at Pontbren which required denser planting than forestry standards and high capital costs for fencing small areas.

***The group had support from Wales Co-op with this.

4.1: Benefits and Problems

Business Adaptation and Diversification

The project has enabled the farmers to variously experiment with the following activities:

- De-stocking
- Hedging and woodland planting for shelter belts
- Other environmental enhancements such as ponds and habitat creation
- Value-added meat marketing
- Buying together as a co-operative
- Sharing machinery and working co-operatively
- Buying a chipper and using wood-chip bedding
- Developing a tree nursery
- Hedge and woodland planting and pond creation
- Holiday lettings and B&B
- Running study visits and farm walks

Experiences of the project differ from farm to farm, with some adopting more changes than others. The project has acted as a means for farmers to try new things as they wish, but only do as much as they want, in a manner that suits their needs and farming system. Curiosity and a willingness to join a group that was going to enable them to explore new options was a factor highlighted by many of the farmers as a reason for joining. The ability to experiment as much or as little as desired has been a major factor in the farmers' interest and continued commitment to the project.

Business adaptation and diversification activities have been undertaken by some on an individual basis, sometimes as a whole group of ten, and sometimes as smaller groupings. Some activities, including machinery and labour sharing, pre-date the formation of the project. Some farmers have also undertaken skills training courses in food safety and gained greater skills in meat marketing. Most of the group highlighted that the project has pushed them to explore things that they would not otherwise have tried, and that this had been an important benefit to their business by enabling them to develop new income streams:

"it made me focus on the fact that there was other ways of doing things on the farm rather than just sticking to the animals only... it gave you an opportunity which you wouldn't have had otherwise"

Others stated that experiments such as the tree nursery and wood-chip bedding were good at the time even though they have not continued. Most acknowledge that they have gained greater confidence and business awareness as a result of the project; along with a greater willingness to experiment and openness to new ideas.

“I’ve not been scared of getting involved in other things now... You just get used to participating and things and know what can be done. I think otherwise some farmers are nervous of going into things, think they’re going to lose land or have to spend a lot...”

“It sort of opened our horizons...”

“lessons to be learnt...is not fearing agencies...not being defensive. As a group we’ve learnt to ask the right questions ... what will it mean to us, what do we have to do and what are the issues that we are going to encounter...”

However, whilst Pontbren has enabled the group to explore new ideas, and gain greater confidence to experiment, there is still a clear sense that the majority of the group feel constrained in the possibilities open to them. Only a few of the businesses have been able to make substantial changes to strengthen their income streams (through holiday lets or renewable energy for example). So whilst the group have clearly improved the resilience of their businesses by lowering the levels of inputs into their farming systems, they have not been able to achieve a significant increase on their returns from lamb and beef sales. As such, whilst the project has enabled them to experiment with options for diversification, at present the majority of the businesses are still heavily dependent upon one main output. Given the difficulties they have experienced in securing ‘adding value’ on their produce (see discussion of meat marketing below), they remain in a vulnerable position.

Destocking

Of the nine farm businesses at Pontbren, six have reduced their breeding ewe numbers with support from WG. In 2008, CCRI reported that “these businesses were all very positive about the impacts of destocking, as it enabled them to get off the productionist treadmill, cut livestock costs and in most cases improved lambing percentage and lamb size. For some a reduction in labour requirements has also provided them with more time to concentrate on other activities.” It was also noted that de-stocking had had the largest impact on the members’ farm businesses. In the interviews conducted for this report, the same sentiments were expressed, and many stressed that destocking was one of the best parts of the project.

“the destocking definitely was a very good part of the project for us. By doing that our lambing percentage went up, so at the end of the day you don’t end up selling that many less lambs. It just showed us I think that we were keeping too many.”

From figures collected by WG, it is evident that the percentage reductions on the six destocked farms between 2000/01 and 2011/12 ranged from 14% to 32%. The average reduction per farm is 25%. On a Wales basis, in 2001 the breeding ewe flock stood at 5.1m ewes; this fell to 4.1m in 2011, which is equal to an 18.5% reduction⁶. This nation-wide reduction has come as a result of removing headage

⁶ These figures were provided by WG.

payments, through reforms to the CAP. However, it is notable that the figures for Pontbren show greater reductions than the national average, demonstrating the utility of the destocking payments.

Due to fluctuation in prices and costs over the period, it is difficult to clearly identify positive financial impacts. Nevertheless, the Farm Business Survey data reveals that the difference in the group's average farm output before destocking (2002/03) and with de-stocking payments (2004/05) was around £24,000. Over the same period those with the Pontbren Project who did not de-stock saw an increase in average farm output of £18,000 (CCRI 2008).

On the farms that did not destock, the farmers report that stocking figures have broadly stayed the same⁷, reflecting both the lower initial flock sizes on these farms and the different business strategies of the farmers there.

Whilst in the initial years of the project, many of the farmers argued that they would increase stock numbers again if they did not have the payments; now, they state that they are happy with their present flock numbers and would not increase again in the current financial context.

Meat Marketing

This element of the project has, in many ways, been the biggest disappointment to the farmers. To improve the value of their produce and develop a more financially sustainable supply-chain was one of the core objectives for the farmers. They began this endeavour with early group sales to local farmers' markets under the Pontbren brand, building on the approach that some group members had employed prior to the project's initiation. Whilst they enjoyed some success with this retail method, and all agree that they have learnt a considerable amount from it (in terms of their awareness of consumer needs and food processing), it was ultimately deemed to be too time consuming to be value for money (once they had factored in the costs of their labour in the travel and sales time involved).

Moreover, the local market and consumer catchment area were not seen to be an appropriate audience for high value produce, meaning that they were not able to realise the level of return they would need to sustain this method of sales. It is also important to note that the different farm businesses are not all equal in their ability to contribute to such a group, as some farms are run by more than one partner (or have children / staff to help) meaning that they have greater flexibility in labour availability and hence were more often involved in the market sales. Whilst this is one of the challenges that co-operatives do have to address, and the farmers were able to offer other exchanges of labour to balance out such divisions, it does present some difficulties in the management of a producer group.

⁷ One farmer who did not receive the destocking payment is a dairy farmer and hence the payments and these considerations are not appropriate to him. The other two farmers did not destock because they had lower numbers of stock to start with and were at different stages in their business development, in that they were younger than the other farmers and wanted to expand their businesses.

Despite the decision to withdraw from group sales at the local markets, some farms are still involved in direct sales to customers with whom they have developed a relationship over the years. This method of direct sales was seen to be a useful way to overcome the problems of dealing with retailers and the reduced return on produce associated with supermarket sales. It is notable that this approach has been adopted by a number of successful businesses across Wales (WRO 2012) and, whilst it is not appropriate for everyone, it has been an important channel for those that have benefited from it.

As a group the next step in meat marketing was to secure a supermarket contract, which the group made considerable progress with, with the assistance of a consultant paid by WG. It is very unfortunate, and still not fully clear why, the contract fell through at a late stage in the process. It is possible that the sudden shift in the economic climate (back in 2008) had an effect upon the retailer's decision, and that it was no fault of the group. Some members feel that maybe they were too small as a group to meet the supermarket's requirements. Whatever the explanation, it is clear that this has had a big impact on the groups' confidence in dealing with retailers, as they are now unwilling to undertake further engagements with other supermarkets⁸. Their experience also shows how challenging it can be to establish successful relations between producer co-operatives and large retailers, despite increasing interest in this approach; and their experiences have been echoed by cautions from other groups across Wales (WRO 2012). In addition, the group note that the wider vulnerabilities in the food industry mean that they are cautious about whom they would go into business with. Specifically, they reported cases of small businesses folding and their associates losing money as a consequence. Hence, they felt it could be more secure to go with bigger more established firms, even if you are not getting such a high return on your product.

Discussing other opportunities for co-operative working as a buying group, the farmers outline that they have not fully explored this avenue, despite bulk buying the fencing material for the Enfys work together. They outline a number of concerns about buying feeds as a group, which centre on their individual needs and habitats of buying feed, and concerns that the benefits of buying as a group are gradually being eroded as retailers and mills adapt to ensure they maintain their own margins. In addition, they query whether they are big enough as a group to have the 'clout' they would hope to achieve by working co-operatively; and also note some concerns about the process of guaranteeing credit when purchasing very large orders collectively. However, the group do agree that bulk buying fuel and fertiliser could be a useful avenue to explore together. Overall, it is apparent that the group have not fully explored the potential of co-operative working, and whilst they have a number of justified concerns it is evident that this is an area they could consider further.

Environmental Works

⁸ However, it does not appear to reflect their boarder increase in confidence in dealing with other agencies and opportunities as noted on p9.

One of the most important features of the project has been the environmental works the group have undertaken, in the form of hedge and woodland planting, and pond creation. The hedge and woodland planting in particular has proved to be multifunctional in its benefits, enabling the farmers to gain more shelter for their stock (their primary objective), supporting biosecurity on their farms, and providing biodiversity and hydrological benefits⁹. This multifunctionality has been at the heart of the project's success as the farmers are very clear that the environmental works were conducted primarily for the shelter benefits and would not have been undertaken otherwise. In other research conducted on payments for ecosystem services (Wynne-Jones 2013b) a similar story emerges, demonstrating that multiple ecosystem benefits can be gained through on-farm conservation activities *if* they work in synergy with production goals.

As other sources have outlined (CCRI 2008; Keenleyside 2013), the Pontbren farmers had planted ~120,000 native broadleaf trees (the majority grown in the group's nursery), regenerated 26.5km of hedgerow and created 20m² of new ponds. They have also fenced-off areas of wetland and broadleaf woodland within their farm areas. The WG FWPS (2004-7) data shows that 17.79 hectares of woodland were planted through the project. These measures are equivalent to a change of land-use from ~1.5% woodland to 5% (Keenleyside 2013).

With regards to this planting work, the flexibility and group control that was enabled through the Enfys funding was highlighted as an important benefit and a key lesson to share. It is well documented that the farmers felt no other schemes suited their aims or requirements:

"...none of the existing schemes were appropriate. They were too inflexible and it was not possible for us to enter as a group. We were left with no other option than to develop our own scheme and seek funding from other sources." (Roger Jukes, Tyn y Bryn - quoted in Keenleyside 2013)

"I think we wanted to do our own thing and we wanted to do it as we wanted to do it and not have to tick all the boxes and try and fit into all the rules or whatever, that was the main thing."

Whilst all but one of the farms were in Tir Cynnal, and some had been in hedging schemes in the past, none went into Tir Gofal because they perceived it to be too restrictive and not suitable for their farms. For some, it was a case that they couldn't get in because their practices were too intensive at the time; but in many cases it was more that the farmers did not feel comfortable with the level of restriction imposed on their practice, and/or did not feel that the specifications for management practices were suitable for their farms. This reaction is continued in their more recent responses to Glastir. Here examples of sowing crops such as winter barley or turnips were noted, in particular, as unsuitable for their farms because they were particularly high, steep and wet.

⁹ These benefits are clearly demonstrated by the research projects cited in the introductory section, and most recently by a breeding bird survey undertaken in spring 2013 along the stream-side corridors of Tyn y Bryn which recorded ~40 different species.

“The reason most of us never wanted Tir Gofal, we didn’t agree with lots of stuff. They were telling you where to do your hedges and it didn’t work for the stock. We wanted to plant hedges, we have lived here all our lives, we know which way the wind comes from, the sleet comes from and we wanted the hedges to work for us...”

Overall, it was argued that they were not able to undertake management practices in locations, or at times, that suited them. Consequently, it was evident that the farmers did not disagree with the specifications as broad tools, but wanted to have greater control over how they would be implemented to suit their own farm and systems. It was for this reason that the Enfys funding was able to provide an ideal funding source to facilitate environmental works, but in a manner that was open enough for them to adapt to their needs:

“Initial advice was that the project was an agri-business one, but closer examination revealed that this project was really about a community- albeit wholly of farming families – wanting to improve their lives and businesses through working collectively to improve their environment. Pontbren’s project didn’t easily fit into the ‘silo-thinking’ of most funding structures- ...one of the most important lessons to take was the degree of flexibility we were able to create for the project...and the deliberate lack of prescription of the routes taken by the project in order to achieve its predetermined outputs, but also and more importantly – to allow it to embrace and develop some wholly unexpected ones as well.” (Colin Keyse, Enfys Programme Manager: WCVA)

In addition to their control over the implementation of the project, was their ability to administer the funds and evaluate the quality of the work themselves, to ensure that it met required standards. All of these activities were conducted within the group, demonstrating that the farmers were able to run and audit their own work. Through self-regulation the group were also able to keep administrative costs low (around 1% rather than the 5% of their total budget that was allocated by the Enfys funds).

This control was important to them because they felt they were able to retain autonomy over the project, without compromising standards. It is known that farmers can be resentful and uncomfortable with outsiders coming in to inspect their farms (see e.g. Blackstock et al. 2007). But by inspecting their work in-house (certain members of the group were appointed as inspectors) they were able to overcome these issues and ensure that work was done properly. The effect of working within a group of peers is particularly notable here as a key influence on their attention to detail and ambition for high standards (see also CCRI 2008). Similarly, many noted that the group dynamic was critical to their involvement in the environmental works, which they claimed they would not have undertaken on their own. This is a point which will be discussed further in relation to questions of behaviour and attitudinal change.

“I wouldn’t have done it on my own I don’t think, but the push on and working to timescales and stuff like that yes. And you’d see, looking at [his neighbour’s farm] he’s getting on I’ll have to pull my finger out and do a bit.”

A final point to note is the level of environment benefits achieved, which many of the farmers contrast with the impacts of other schemes:

“Tir Cynnal was such a wasted opportunity. They could have done so much more with that money, even if they’d have just said we will match fund you for every pound you spend... they would just give us the money for doing very little really. There was such a chance there and people would have fenced out hedges and streams and all sorts”

“In many cases is a matter of doing things to get points to get in, not as a benefit..”

This raises questions about the additionality of other schemes if farmers are only being paid to maintain a land-use and are not actively undertaking work (see also WAO 2007).

A further environmental benefit that is important to acknowledge is the quality of the tree stock that was raised in the nursery at Belan. The tree nursery was an enterprise that has a number of benefits, helping the group to lower costs and enabling diversification on the farm in question. But the biggest benefit was the ability to grow locally adapted tree species, which then grew much better than imported stock. The benefits at Pontbren are clear, but at a time when bio-security is becoming an increasing concern, the role of local tree nurseries has much wider relevance. One of the major factors outlined by the farmer for this business not continuing was the lack of continuity in government support for national tree planting schemes. Hence the tree nursery at Belan and many more like it were no longer in demand. Since then a need for localised supply has come to the fore again, which reasserts the wider message for scheme and policy continuity that the farmers have stressed.

Social & Community Benefits

Operating as a group was also seen to have important financial benefits, through sharing costs and labour, and by enabling them to bulk purchase items such as fencing material. Overall, whilst the importance of maintaining their identity and decision-making capacity as individual businesses was stressed, it was equally acknowledged that working co-operatively has had many benefits which could support the continued resilience of the farms into the future.

“the weakness of farming and agriculture is there isn’t many co-operative movements within farming. They are all individual businesses and they are all competing against each other ... but co-operation has definitely improved in the last 10 years I think between our 10 farms”

However, as has been stressed in the section on meat marketing, working as a producer and/or buying co-operative is not seen to be a simple solution to the challenges the group face.

Finally, the improved social dynamics of the group were noted by all the farmers as a key benefit of the project. The farms have become much closer as a result of the project and their regular meetings and social events. This is to the extent that they are now much more comfortable discussing concerns and worries, and turning to

each other for help. Many examples of this – particularly relating to the challenges of the weather in recent years – were given by the farmers in interviews.

“...being close neighbours we obviously knew one another...but the fact that we all lived busy separate lives meant we never saw one another, but this brought you closed together... now I feel that if I do a little bit of something then if I need something I can ask back. Does that make sense to you? I don't feel a nuisance whereas before I would've done and I probably would not have asked.”

The isolation of contemporary farming lifestyles is well known, along with the social and well-being challenges this can present. The role of the Pontbren Project has, therefore, been critical in its function of bringing the farmers into more regular contact, so that they could develop a stronger support network. One farmer likened this to the role of chapel for the older generation, and all of the farmers highlighted the critical role this played in sustaining them through the outbreak of Foot and Mouth, which occurred only a short time after the group formed.

“We are far closer as neighbours than what we were. The last generation, chapel was their thing...I think here I could see that Pontbren has really brought us ten neighbours really close together. It was like what I'm sure chapel was for my parents.”

The potential for this strengthened social dynamic, in the wider context of rural community decline and associated social stress, was also critical to their attainment of the Enfys funding:

“at the time the (Pontbren) application arrived, across the office from me sat a colleague administering an emergency grant scheme designed to alleviate stress and isolation in the farming community as a result of Foot and Mouth – and here was a group of farmers achieving exactly that outcome just by helping neighbours work together on a project designed to benefit their environment and local economy” (Colin Keyse – WCVA)

Consequently, it is important to appreciate these social benefits as more than a nicety, but a critical safety-net that the farmers had created for themselves, to support them through the worst social and psychological impacts of Foot and Mouth.

The buoyant social life they have enjoyed as a result of the project was also noted as a key reason for their on-going commitment to it, and has had wider social impacts throughout the local community, including their roles on the Rhiwhiriaeth Community Committee and local school visits to the farms.

As CCRI (2008) also note, many of the group were keen to highlight that a lot of the project funding has gone to local contractors and suppliers. In total they recall employing the services of 27 local contractors. These were mainly farmer's sons who had their own smallholdings and machinery. The group also bought the fencing materials in bulk from a local firm. Of the Enfys scheme funds of £98k and associated match funding, £172k went to local contractors and £131k to local suppliers (CCRI, 2008). As such, we can see that there is an important multiplier effect, both in terms of the economic benefits that the farmers were then able to

redistribute to the wider community, but also the social benefits they create by putting energy into local community institutions. The importance of this localised circulation of capital is critical for the resilience of isolated communities and has been the subject of wider appraisals (e.g. NEF 2002¹⁰) which reassert the necessity of increasing local transactions.

Facilitation

Whilst the encouragement of group dynamics and the driving role of the instigating farmer were noted as key factors in supporting the group to make beneficial changes, the facilitatory role of Coed Cymru was seen to be particularly instrumental:

“as individuals we probably wouldn’t have had a clue where to go or start but [Coed Cymru] could just... speak to this person or speak to that person. You need somebody who knows the ropes if you like and which way to point you type of thing otherwise you end up running round in circles and you don’t know where the hell you’re going, but it just needs the one person really, somebody to facilitate.”

The importance of good facilitators and advisors is noted across the literature on farmers’ groups and co-operative working (Blackstock et al. 2007; CCRI 2008). In this instance Coed Cymru representatives were critical to the identification of suitable funding sources and making contacts with appropriate policy audiences and associated agencies. Throughout the process of developing the planting work, Coed Cymru also offered essential advice on administration and GIS mapping of the planting work. As such, they were able to support and steer the farmers through the bureaucratic hurdles that could otherwise have acted as a barrier to the realisation of the project. This is not to detract from the critical driving influence of the farmers themselves, and the decisions they made about how and where the planting work should be undertaken. But it was clear that the processes of negotiation involved in the project’s development clearly benefited from, if not always depended upon, a supporting facilitator with the necessary skills and contacts.

To date, this support has largely centred on issues that were new to the farmers (grant applications and tree planting). But, it was also argued that a facilitator could be useful for other areas of farm business development. Here the utility of appointing someone to conduct research on available business options and opportunities between meetings was outlined as an important supporting role. Whilst there was some concern that a consultant being paid to offer such support may push ideas that were not appropriate, and / or would not be in tune with the farmers’ needs, some of the group did think that it could be useful to have an external person to assist and co-ordinate discussions and development ideas. The option of gaining such assistance was considered early in the group’s development but they did not pursue it at the time. Reflecting on this issue now, some felt that it may have been a benefit to have had such support. Considering this in conjunction with their comments about developing co-operative business strategies, it would seem that there is some potential for the group to explore these opportunities further.

¹⁰ See <http://www.pluggingtheleaks.org/>

Reflecting on the potential of Agrisgop support to assist the group, it was evident that the farmers had some reservations based upon their observations of others experiences. Whilst this does not reflect wider evaluations of the quality of Agrisgop or Farming Connect services (cf. SQW 2011), the importance of the group to be able to appoint a facilitator that they felt confident in, and for the advisory process to work in accordance with their needs was clearly evident.

4.2: Impacts of Farm Business Survey

As part of the WG funded de-stocking programme, financial data has been collected annually for each farm by the Farm Business Survey (FBS) unit at Aberystwyth and shared with the farmers. The CCRI (2008) report notes that the farmers found this 'extremely useful'. In the interviews undertaken for this report positive feedback was reaffirmed by the majority, and some farmers noted that they had made adjustments to their farm systems as a consequence of reviewing the data. In particular, it was noted that the high cost of keeping cattle was something that they had already got a sense of before the FBS, but seeing the figures had made them reappraise their management in order to reduce the costs.

"It has helped me. I can see my sheep are making money and the cows aren't. So we have reduced our suckler cows..."

This was not a straightforward issue as the farmers who kept cattle all agreed that a mixed system is better for the land and the stock, but they were increasingly mindful of the costs. As a consequence, some of the group had either reduced the numbers of cattle or reconsidered their systems – selling them on earlier and not fattening them for instance. However, the group were keen to point out that the benefits of keeping cattle are not straightforward to account for using financial data alone, given the synergies in their farming systems provided by the cattle, and the consideration of capital costs which would have to be borne if they stopped keeping the cattle and then had to start again. As a consequence, some group members aired cautions about only attending to the business data without a balanced reflection upon the non-financial stocks and flows.

Despite this caveat, they were otherwise positive about the FBS, and even the farmers who had not implemented changes noted that the figures were very useful. In particular, they highlighted the importance of seeing how much the business was making and how much was coming in from subsidies and other payments, which pushed them to consider how to strengthen their income streams in coming years. A number of farms had previously engaged in business monitoring, for instance through ADAS, or continued to monitor, e.g. through Dairy Co's benchmarking service. But the utility of the FBS was clearly noted in allowing farms to benchmark against similar business types in Wales.

A final concern that should be noted was that group members often felt they could not make significant changes, despite their increasing business awareness, as they were constrained by their location and capacity of the land.

"...we've pretty well kept on going as we've always done really because we're fairly limited with what we can do in the uplands here I would say. It's either beef or sheep and that's about it. I think it's made us stand and stare and look into what we're doing perhaps and why do we do it. You do have to question yourself sometimes why you're doing it. But there have not been any major changes to the plan."

This is a common perception amongst upland farmers across Wales (WRO 2012). Whilst there are examples of very successful diversification across Wales, including some of those within the Pontbren group, the farmers felt that these success stories are limited to those who have the capital and appropriate locations to realise these ideas (see also WRO 2012).

“You have got people like the Rhug Estate up at Corwen, they are organic, they are on the side of the road catching all that traffic and you know all that they have spent, he is a wealthy guy, he has spent a lot of money on other stuff to drag the kids in and it would appear they are doing very well. But there aren’t many in that league are there? We haven’t got the traffic around here and.... Well, we can’t basically...”

4.3: Farm Succession Planning

Succession planning and encouraging new entrants into farming is an important issue for the future of Welsh agriculture, and it is evident that many farms across Wales are not adequately prepared or engaged with these issues (WRO 2013)¹¹. As the Pontbren group have shown considerable innovation in other areas of their practice, the Welsh Government was interested to know if their succession planning also reflected this forward thinking approach and whether they had any lessons to share.

For the majority of farms the project has not led to any changes in succession plans, in terms of affecting who the successor is likely to be. But in one case it has led to greater contact between two farming families where there is no identified successor at one farm and a son set to take over at the other, to the extent that the farmer who has no successor would like to lease land to the other family in future. The farmer without a successor was clear that it would not be desirable to lease to their land to a stranger, as it would be too much of an encroachment on their lives and privacy, but as they have built up a strong relationship with the younger farmer through the project this has created an opportunity which would not otherwise have occurred.

Of the remaining farms, some have clear succession plans, with immediate family (sons / daughters / nephews) identified to take over in due course, whilst others acknowledge that they do need to think about the question of succession further now as they have started to think about retirement.

One means through which the project has made a difference to future plans is by encouraging some of the farmers to be more open to new ideas and trying different schemes, which in turn has helped them to consider how their successors can be supported through schemes and business diversification. Consequently, there is some evidence that the Pontbren farmers have been more pro-active in developing and pursuing succession and associated future planning than they might otherwise have been.

“We’ve got an 18 year old boy that is interested in farming. He’s doing the Agricultural course in Newtown. He works on another farm as a placement now. That is the main reason, if it was just us probably we wouldn’t have gone into Glastir, but seeing the next generation coming in we try...”

¹¹ See for example <http://farmingconnect.menterabusnes.co.uk/farmingconnect/news/succession-planning-for-welsh-family-farms> [last accessed 24/2/14].

4.4: Behaviour and Attitudinal Change

The Pontbren Project is known amongst the farm advisory service and catchment management experts within Wales as an exemplar of farm business innovation and environmental good practice (WRO 2013)¹². It is, therefore, important to reflect upon the extent and ways in which the project been responsible for behavioural change within the group.

It was widely reported in both the interviews and existing literature that the project would not have gone forward without the influential role of the instigating farmer and his partner. Equally, the support of Coed Cymru to facilitate, advise and act as a broker between the group and external agencies, was also noted as a key determining factor on the projects' mobilisation. As such, the innovation and behavioural changes achieved through Pontbren need to be appreciated in light of the driving role of these key individuals.

In addition, amongst the wider group members there was also a differential in social dynamics and roles played, and for some the changes experienced over the project have been much greater and clearly different to the perspective of others. Consequently, attitudinal and behavioural change should be considered on an individual as well as group basis.

In relation to environmental attitudes and behaviour, in 2008 CCRI reported that the Pontbren project had enabled the farmers to improve their environmental knowledge and learn new skills through the tree and hedge planting work. In addition, it was noted that interaction with Coed Cymru, and other stakeholders conducting research activities on the farms, has enabled the group to learn more about trees, biodiversity, and hydrology. These findings were reaffirmed in the interviews undertaken for this report, with the majority of the group noting their increased awareness of biodiversity on the farms, commenting on both the relative increases due to habitat improvement but also their changes in perception, as they have become more attuned to the wildlife that is present.

"I took no notice whatsoever before, but now definitely we've even got a spying glass, we've even built a little tree house so as to go out there at an evening and just watch... It's amazing the wildlife that's down there and I'm presuming because we've lived with it we couldn't see it, but it's actually made us more aware. It's changed my outlook totally on everything and I would think that it has to be only for the good."

Perhaps unsurprisingly, however, their interest is confined to the more charismatic species, and does not extend to include 'pests' such as badgers, foxes and many raptors. It is also notable that in initial appraisals undertaken with Dr. Tim Pagella, the farmers expressed an ambition to increase biodiversity as one of the initial objectives of the project (Pagella 2011), demonstrating that whilst the depth of their knowledge and appreciation has certainly increased, they have not substantially altered their perception of the environment.

¹² See also <http://www.monbiot.com/2014/01/13/drowning-in-money/> for wider references in the UK media to the Pontbren Project [last accessed 24/2/14].

It is also notable that the group have not changed their attitudes towards the role and dynamic of the environment and conservation work as part of a working farm; i.e. they feel that environmental work needs to be done in a functional way that supports a working farm in the production of food. This is not to place a normative inference on their perspective, but simply to highlight that their original attitudes towards farming and the ways in which farmers adapt and alter the landscape have remained relatively consistent. Here, it is worth recalling that the original objective of the project was to support more sustainable farm businesses, and that the environmental works conducted were done to enhance lamb and beef production.

Nevertheless, they have changed their attitudes on some aspects of their practice, particularly stocking rates. In this regard, whilst it was evident that group members could see the need to reduce stocking rates at the outset, they would not have done so without the financial incentives. Moreover, during the course of the project they continued to argue that they would return to higher stocking rates without the continuation of payments. Now, however, their attitudes seem to have changed as the sustainability of their adapted farming systems has become more apparent. This demonstrates the importance of first-hand experience, and the opportunity to experiment and to come to their own conclusions:

“I always used to think that loads of stock was the way forward, but it isn’t. I would not have found out about this [without the project] I wouldn’t have had the money for the ewes... What it did was bring me as many lambs and grass which I never had... but you’ve got to be able to be allowed to try these things to be able to find out.”

Some of the group also reported that they have become more open to change and increasingly interested to consider different opportunities available to them. For example, some who were previously opposed to being in agri-environment schemes now feel more confident and comfortable with the scheme requirements and have therefore decided to join the Glastir schemes¹³. For others this is evident in their increased awareness and pursuit of different business (and associated grant scheme) opportunities. However, in many ways it is evident that the project has not fundamentally altered existing behavioural patterns or values, but supported and enabled the farmers to develop characteristics and inclinations that were already there.

Where substantial change is evident, it is in their behaviour as a group. Whilst the farmers were all friends (and in some case relatives) before the project, their ability to work co-operatively as a group has changed considerably. They all reported that they are now much more inclined to call on each other for support and work together to tackle problems, which is a notable departure from their previous behaviour and that of many other farmers across Wales and the UK more broadly (Blackstock et al.

¹³ It is important to stress here that a number of the others who have not joined Glastir were not able to do so in the first instance, as they had already done the environmental work they would be required to do for Glastir through the Pontbren project and did not feel that they wanted to create more habitat in addition to that. Whilst the scheme requirements have now changed, and there could be an opportunity to join, they are not yet willing to try again after this initial disappointment and frustration. For others the schemes are still not considered to be appropriate.

2006; CCRI 2008; Sutherland and Burton 2011). As Pagella (2011) outlines: “the Pontbren farmers have significantly altered their social support framework and have demonstrated altruistic behaviour towards each other and derived benefits through co-operating with each other”.

They also note that they have learnt *how* to work together much better, through the process of meeting regularly and having to reach compromises over issues such as group purchases of fencing materials. This has not been a straightforward process, and it is evident that it has not always been smooth or easy to co-operate in such a manner, but their achievement of working together is considerable in the wider context of low numbers of farming co-operatives in the UK (Co-operatives UK 2012).

“It’s co-operation really and it is difficult. You can’t exactly replicate it. You’ve got to all get on and want the same things and listen. Sometimes I can go away from a meeting and it’s been of no benefit to me...but unless you go you don’t know really do you? You can imagine that some people would go and say ‘It’s not for me’ and chuck the towel in straight away.”

“all of us knew each other beforehand. We knew who was stiff and who was lenient and all of us are stiff in our own ways in different topics and then you’ve just got to believe and get on with it and do and compromise... Everybody compromised to one way or another.”

Equally, the fact that the group have not worked solely as a producer co-operative marks them out as having a different focus and driver to the majority of farming co-operatives in Wales (CCRI 2008), showing that they have been able to come together and support each other on a wider range of issues than product sales and marketing.

In light of their interview responses, it is suggested that the ability to maintain autonomy in the majority of their business decisions, but come together over some aspects, has been important to the success of the group.

“we still like to be individuals don’t we, that is the trouble with farming that farmers like to do our own thing.”

This has ensured that each farm can be run independently, maintaining the control of each individual farmer, but enabling them to collaborate on areas of mutual benefit. Here it is notable that there were distinctions in the farmers’ attitudes towards group working, with differing perspectives and drivers. For instance, it is important to realise that there are groups within the overall group who come together for different reasons; and in some cases success has come from some group members being able to compromise more than others on particular issues, although the group largely feel that different benefits balance out overall, if not in every instance.

Reflecting on the success of their co-operative working, the farmers stress the fact that they already got on with each other, and highlight that many neighbours might not be able to take such a relationship forward. Their success is, therefore, not straightforward to replicate; but some of the mechanisms such as regular meetings and a good facilitator were seen to be key factors in their success (see also CCRI

2008). Coming together around a common interest, and being invited by peers rather than external agencies, were also evident as important factors. Equally, the fact that the group met socially and had fun meant that the more onerous and tedious aspects of group working were balanced out.

“The main thing that’s kept us involved? We’ve had a lot of fun. Good God. Back in the foot and mouth time, we were the only people we were seeing then for two years maybe because everything else was cancelled...We’ve had a few barbecues and things like that...plenty of social evenings. We had fun. We get to Tyn y Bryn and sit round the table with a cup tea... We’ve had good nights and some bad nights we don’t quite agree but we iron things out. I can never say I’ve got off from a meeting and ever been disappointed.”

It is also particularly notable that the all of the farmers stated that they would not have undertaken the environmental works if they were not in a group. Here they explained that firstly, it was operating as a group that secured their funding, but equally without the group encouragement and support they would not have been inclined to participate. CCRI (2008) also highlight the impact of social dynamics and ‘peer-pressure’ as key factors on the high standards of the environmental work, which often meant that as a group they would achieve more, and to a better standard, than if they had been paid on an individual basis. Equally monitoring by their peers was a more effective means of evaluation than an outsider, as outlined in earlier discussions of the Enfys work.

A final point to note, in relation to the group environmental work, was that they were able to make plans individually. Whilst it could be desirable from the perspective of landscape-scale conservation and flood-mitigation for the farmers to work together, to plan across the catchment (Franks and Emery 2013; Pagella 2011), the group were keen to stress the need to retain control over their own farms and equally that they would know what suits their own land best.

“Everybody decided what they wanted themselves. No, you couldn’t go to somebody else and tell him where you want to put the hedge there that would be madness, well that would be downright cheeky I would have thought. If somebody came and told me oh you have to put one there, no thank you.”

It was also suggested that the group may not have been sufficiently comfortable as a group to plan at a larger scale at the start of the process. As they have come to trust each other increasingly over the project, and become more comfortable with the type of environmental work involved, there is now greater potential for them to engage with catchment level planning (see also Pagella 2011). However, they still remain cautious about the idea. This seems, largely, to be for the original reasons outlined (noted above). But whilst they remain unconvinced by external agendas for biodiversity improvements, asserting their own knowledge base as more appropriate and in-depth, they do acknowledge the hydrological insights achieved through the project. Hence, there could be potential to plan future environmental work with them in this area. Yet as Pagella (2011) also notes, in order to do this type of landscape work, it would be essential to guarantee long-term financial security for undertaking environmental work that could otherwise have a detrimental impact on production goals (see also Wynne-Jones 2013b).

“The way they [the researchers] were seeing how the water goes through the ground when you’ve got the hedgerow, it just slows it down by a terrific amount... and we’ve got these corridors of tree lines now... except you cannot plant trees everywhere or wouldn’t have any grazing ground. The trees don’t pay the bills.”

The group also expressed concerns about the effectiveness of tree-planting on their land as a ‘fix-all’ solution for flooding issues, and stressed that whatever they do on their land would equally have to work alongside wider management strategies across the catchment, involving a range of partners. In this sense, it is clear that engaging farmers in the delivery of ecosystem services at a landscape-level will involve further knowledge exchange on the science and outcomes of particular management prescriptions as well as appropriate economic incentives.

4.5: Impact of Research and Development Activities

One of the main reasons for the Pontbren Project's wider acclaim has been the impact of the tree planting upon landscape hydrology and the resultant high profile scientific interest in the project. However, it is important to remember that the project was not designed in the first instance for flood or water quality management, or indeed as a research project. These aspects have been incidental to the primary objective of providing shelter for the livestock, as a means to support more sustainable farming systems. Nevertheless, the farmers have embraced these emergent aspects of the project and facilitated access for large numbers of researchers and associated visitors to the project site.

Overall the farmers felt that the research was beneficial and interesting, but noted that the hydrological impacts did not directly affect them or their farming systems. Consequently, they stated that the main benefit of this work was through the wider acknowledgement and publicity that it brought them as a group. Specifically, it was suggested that they were unlikely to have had such a big profile without the research work that was undertaken on the site. Equally, it was felt that the research findings provided greater legitimacy for the planting work undertaken, given the multiple benefits now realised for a range of audiences.

In terms of the research process, some farms had greater levels of engagement with researchers than others as the research took place on their land, and / or they provided accommodation for the researchers. But all of the farmers engaged in regular group meetings and feedback sessions with the researchers, which were widely appreciated by both parties. This process of exchange was considered as an important component of the project in terms of the farmers gaining greater social confidence and awareness. Their involvement with the research process also proved to be important for the researchers, as both parties learnt during the course of the work that their respective insights complimented and augmented the overall production of knowledge. Consequently, the necessity of the wider move towards participatory research practise that is occurring across academia was clearly borne-out in the Pontbren Project¹⁴.

Looking to the future, a number of group members felt that it would be beneficial if the research work could continue at the site, as it was understood that further monitoring was still required and study visits to the site were still on-going on a regular basis from a number of different groups. In this regard, the potential of the Pontbren farms as demonstration sites for a range of interests (agricultural through to hydrological modelling and analysis) was evident and is seen as an important avenue for future development.

In relation to other R&D work that the farmers were exposed to and involved with, the experimentation with woodchip as a bedding material was noted as particularly useful and would be more widely used by some of the farmers if the opportunity was available. As the wider research conducted on this product noted, there were a

¹⁴ Specific insights and exemplars of this cross-fertilisation of perspectives are noted in greater detail in Pagella 2011.

number of limitations to the use of woodchip, as large storage areas are needed to dry the material (HCC 2008). However, if the dryness criteria were met it was seen as a very good product and particularly successful as compost for the tree nursery (once it had been composted after use as bedding material). In terms of the future application of the wood-chip bedding, some farmers felt that its main benefit was the local providence and economy of using waste wood from the farm. Other stakeholders felt that there was a need to develop a more effective supply chain that could compete on price with straw. This later argument was supported by a number of the farmers who stated that they would be happy to continue using wood-chip if they could access it as easily and as cheaply as they could with straw. In terms of the legacy of using this material, it is important to note the benefits of its use as a very fertile compost (for trees and then vegetables), demonstrating another important example of multifunctionality within the Pontbren project.

4.6: Policy Impact

In light of the benefits realised at Pontbren, the farmers have been keen to communicate their experiences and to ensure that policy applications are taken forward. In this section, we reflect on the contribution the farmers think they have made to WG policy development, and outline lessons learned from the Pontbren project for forthcoming CAP and RDP reforms.

In the first instance, it is clear that the farmers and those associated with the Pontbren Project have been frustrated that their innovations have not been emulated more widely; and particularly concerned that agri-environmental schemes have not been utilised or designed effectively enough to promote similar activity elsewhere. Whilst the project has experienced high levels of visitors and reported on as a case-study in numerous academic pieces, the farmers are concerned that the policy lessons have not yet been realised¹⁵. Similarly, whilst they have been visited by ministers and consulted in the development of the Glastir scheme, they were concerned to stress their messages had not been taken on board.

“if they thought that Glastir was going to be based on Pontbren then I don’t think anyone has listened...”

“That is one of the things that really pees me off you know to put it bluntly: you talk to [people who visit] and they’re there and they totally agree with you but it seems to be when they get out of the gate, they forget about you - that is the feeling, possibly that is not true, but you don’t see any feedback. Sometimes you think well why doesn’t somebody write and say what you said is of interest and we are pursuing it and we are stuck with a certain problem, but you get nothing back.”

From the experiences of woodland and hedgerow planting there are some fairly straight-forward messages which can be immediately translated in terms of simple adaptations to existing scheme design / specifications; these are listed below. The farmers’ experiences also provide some broader messages. Their strongest and most repeated point was that things should be kept simple.

“Just to make everything as simple as possible, I think, because that’s what made this project work.”

“The previous hedgerow renovation scheme was simple as you could get - the farmer and your local officer drew up the plan, got it passed, you do the job and you get the payment after a little inspection. Simple - but everything has to be tied up with unnecessary complications as far as I’m concerned these days.”

Whilst there was some acknowledgement of the rationale behind current scheme models, they continued to stress the need for flexibility to ensure management is appropriate to the farm. Whilst scheme specifications were broadly seen to be

¹⁵ Research on the wider perception of the Pontbren Project amongst the farming community has not been undertaken. Whilst many farmers have visited the site there is only anecdotal evidence on their response to the project.

appropriate, their rigid application was not. For instance, as noted previously, sowing of fodder crops is clearly a beneficial activity, but its appropriateness in different locales depends on soil type and topography.

The experience at Pontbren demonstrates the potential for letting farmers take greater control and responsibility for the design, implementation and monitoring of environmental management. Whilst there is always a concern that others might not be as diligent or trustworthy, their experience does suggest that taking a greater stake and having more autonomy is critical (see also CCRI 2008; Wynne-Jones et al. 2013).

It is also important to stress the benefits that have been accrued here by supporting a project that did involve risks. In particular, Colin Keyse (the Enfys Fund Programme Manager) stressed that this decision was not taken lightly, but given the potential community benefits envisaged he felt it was important to support the project:

“The unusual, but deliberate decision by the Enfys panel to allow the community group to manage their own expenditure and reporting caused a degree of nervousness at the time – but by demonstrating that the funder understood the complex motivations of the group, and trusting that the risks were shared between the community and the public purse, it worked well and has – as an effective catalyst - repaid the investment many times over” (Colin Keyse, WCVA)

Consequently, he was keen to assert that we do need to take risks in order to enable innovation, as long as there are mechanisms in place to learn the lessons. At the moment, there is wider evidence that lessons are not being shared, which does not support a culture of innovation (WRO 2013); and particularly with Pontbren there is a strong sense that their good practice has not travelled well¹⁶.

Returning to the question of scheme design and incentives, it is important to stress that the Pontbren success story is the result of more than just financial incentives. Appropriate payments were clearly necessary, but those involved with the project emphasised that policy makers need to get away from the incorrect notion that if you pay farmers they will do something; it is more complex than that, and this thinking has got the existing schemes into a bad position. Perhaps most importantly, schemes need to be designed with the understanding that specifications which conflict with ‘productive farming’ are hard to convince farmers of. Hence, schemes need to work with the landowner’s perspective and priorities, as well as responding to the landowner’s knowledge of the land.

Farming time-cycles are important to acknowledge in scheme design, but financial administration often does not take account of this and introduce deadlines at busy and difficult times. There is also a need for a realistic perspective of how much work can be done over scheme periods and when it is appropriate. Connected to this point, budgeting needs to be feasible and made available over a sensible time

¹⁶ This was a comment recorded in the plenary session of a stakeholder event evaluating experiences of knowledge transfer and innovation across Wales (WRO 2013).

period, this is because tree planting and associated capital works can take a lot of work and get the business out of balance if too much is taken on at once.

A final point that the farmers made on many occasions was the need for schemes with continuity. This would mean that there are no radical changes in agenda between schemes, but on a more practical level it would mean that the farmers know they can plan for the future, because they have the security of knowing they will be able to come back for more funding to support hedgerow management and further planting in coming years. This is a major point at the current juncture with the project as work they have done to date is now in need of maintenance to ensure the benefits continue.

Woodland Schemes

In relation to tree planting specifications in the current schemes, the following recommendations have been made by the farmers and are supported by the Woodland Trust and Coed Cymru:

Thinking about tree cover through a traditional forestry worldview does not lead to the type of spatial arrangements that are needed to integrate trees into farming systems in ways which benefit the farm and ecosystem services. In relation to current schemes, while the Glastir Entry Element includes an option to create connectivity strips, for example, the exacting requirements of the scheme at an all farm level appear to be too onerous for many farmers, with the result that fewer applied than had been hoped. While funding is available for tree planting and woodland creation through the Glastir Woodland Creation Grant, this scheme includes requirements that make it unsuitable or unattractive for many farmers who would otherwise be interested. This is because:

- Shelter belts normally have to be at least 12 metres wide. While wider strips can offer greater benefits, they also deprive farmers of more grazing land and are, therefore, seen to be less attractive to farmers. Narrower strips still offer significant benefits.
- The experience at Pontbren suggests that the most suitable species mixture for shelter belts includes at least 40% shrubs, so as to maximise the shelter provided and the infiltration of water into the soil. Yet Glastir Woodland Creation allows only 20% woody shrubs in the mixture.
- Glastir Woodland Creation usually requires planting a minimum area of 0.25 hectares, and we understand that this is shortly to rise to 0.5 hectares. Many of the opportunities on farms are smaller than this, but collectively can make a significant contribution to tree cover.
- Shelter belts often require much denser planting than the larger blocks of woodland for which the Glastir Woodland Creation Scheme was devised.
- Newly planted areas require a great deal of maintenance over the first couple of years. An option for small areas of planting would make allowance for the capacity of farmers to maintain the planting during busy summer months.

Because of the differences in the type of planting undertaken from forestry standards, the woodland grants available at the time the farmers were developing

the project (FWPS) were not calculated to fully recognise the costs of fencing as a proportion of total costs. This is why the Pontbren farmers were paid a top-up on their Farm Woodland Premium Scheme. The more recent schemes (Better Woods for Wales and Glastir Woodlands) have provided better rates than the FWPS, but it is clear that the type of work undertaken at Pontbren does require a lot of fencing and payments need to cover this.

An important theme in all of the recommendations above is the need for simple schemes to introduce farmers to woodland planting, which do not require an onerous commitment. Responding to this need, Coed Cymru and the Woodland Trust would like to launch a small grant scheme, building on the successes of Pontbren and the earlier 'First Steps' scheme (see Coed Cymru 2007; 2013).

The farmers are, however, keen to stress that any scheme modifications need to attend to the bigger picture. Consequently, whilst more appropriate woodland schemes would be a good thing, they see the function of tree planting (by farmers) first and foremost as a means to support good farm husbandry, where-in food production is seen as a core component of the farm businesses. And they are concerned that the Pontbren success story is not hijacked as a means to advocate high profile targets for tree planting in Wales. The priority for them is the introduction of schemes/supports to support the wider goal of resilient farm practice, which they are concerned could be overlooked or side-lined in the rush to support tree planting for carbon sequestration or hydrological priorities (see Wynne-Jones 2013a).

Payments for Ecosystem Services

Because current agri-environment scheme and woodland grant payments are based on the anticipated costs (income-foregone) of planting, they undervalue the full worth of planting. They are not a payment which reflects the value of the benefits of the planting. Moreover, as they reflect the costs of implementation on the basis of a predetermined set of rules, which rely on national averages, they do not always cover the actual costs in particular locales. Consequently, there is no clear financial incentive for farmers¹⁷.

Concerns with the restrictions of payments based on income-foregone are now widespread beyond Pontbren (Burton and Schwarz 2013; Schwarz et al 2008; Wynne-Jones et al. 2013). Consequently, it is suggested that payments need to better reflect the value of the benefits, rather than the cost of implementation. To do this, the stakeholders from agencies involved with Pontbren (see appendices for list of interviewees) suggested that some monies could come from private sources or more novel ways of funding, but some also needs to come from government. These stakeholders argued that where there is clearly a public benefit, which exceeds the cost of implementation, government should be using its powers to correct market failure. They state that the 'paying-the-least-you-can' approach is failing to achieve

¹⁷ These problems are well documented in the literature (as noted in the text) they have also been acknowledged by Welsh Government staff within BETS (Business, Enterprise, Technology and Science). For example, Kevin Austin presented on this theme to the Aberystwyth University Stapleton Society during 2013.

activity at a level and in a way which achieves the public benefit needed. This perspective is also supported by analyses of agri-environment schemes which question the additionality achieved by current payment methods (WAO 2007).

In relation to private funding, there are a number of examples of this now occurring across the UK, with water companies in particular showing an interest in funding farmers for management to improve water quality¹⁸. There is also the potential for insurance companies to be more involved where down-stream flooding is a concern. The Pontbren farmers are not the only group that could benefit from such funding arrangements, and other groups including the Cambrian Mountains Initiative have also been pursuing these options. Benefits could also be achieved through the utilisation of biomass from waste wood sourced through management programmes. The Pontbren group experimented with woodchip for bedding, but opportunities also exist for biomass heating that could have wider community benefits.

An important point to note here is that current policy and incentive mechanisms (such as the Renewable Heat Initiative and Renewable Obligation Certificates) have made it harder for localised supply mechanisms to gain purchase, because woodchip is being sent to big power stations. The alternative model if localised supply was prioritised is that woodchip could be used for bedding and then composted to provide a growing medium for trees or vegetables. The benefits of the product are then multiplied and fixed within the community (NEF 2002). This type of thinking is potentially critical to the resilience of rural communities, where attempts to market one value-added product for export have not borne fruit but numerous small-scale and multifunctional transactions *have* strengthened and maintained the diverse forms of capital present (see e.g. Wilson 2012; Bristow 2010).

Group Facilitation

As the discussion of earlier sections has emphasised, the group dynamic has been critical to the success of the project. Considering this in relation to future CAP and RDP reforms it is therefore apparent that provision for group working is taken forward. The experiences of Pontbren suggest that the scale and nature of collaborative action needs to work with social networks and, as such, be meaningful to those involved.

Appropriate advice and facilitation services need to be available for such group working. For example, in addition to negotiating the usual sources of grant income and producing farm scale plans, support is needed for running collaborative arrangements. In order to realise the opportunity of attaining funding for ecosystem services, those managing the land must have the capacity to negotiate and handle such payments. Collaborative arrangements seem more likely to achieve that end, but are beyond the scope of most farming businesses without support.

¹⁸ For instance initiatives run by South West Water <https://www.southwestwater.co.uk/index.cfm?articleid=8329> [last accessed 24/2/14].

A further point which is now widely recognised is the need for tacit knowledge (Blackstock et al. 2007; WRO 2013); for example, the environmental expertise of Coed Cymru has been very important, but so has the ability of Coed Cymru staff to work with the farmers' priorities and gain their trust. Here the recommendations from CCRI (2008), that groups should be able to appoint their own co-ordinator and have money to fund this as part of wider grants, is particularly notable and was echoed by agency staff who had worked with the farmers. More recently, the success of Common's Development Officer's with Glastir Commons (CCRI 2012) again reinforces the importance of the facilitators' role. A final point is that there were different priorities within the group, as different people came together around different things. The skill of a facilitator, therefore, is to draw-out the overlaps and the synergies to take a project forward.

SECTION 5: CONCLUSIONS

In this final section the more detailed feedback outlined in section 4 is brought together to summarise the key lessons learnt and draw out pointers for where the group could go next. Overall, the Pontbren Project has been a very positive experience for the farmers involved, exposing them to new ideas and practices, and creating substantial opportunities for them to develop innovations in their farm businesses. As a consequence of the environmental work they have undertaken, a number of benefits have also been realised for a range of beneficiaries beyond the farms. Whilst they have experienced some disappointments, their successes have been such that it is important to reflect upon how other farmers can be supported to develop similar projects.

- In the first instance, it is important to reassert that no existing schemes have enabled them to do what they wanted to do, and this is why they turned to the option of lottery (Enfys) funding. Detailed messages on their concerns with the schemes are detailed in Section 4.6 'Policy Impacts' of the full report; these can be distilled in the farmers' strongest message: to keep farm schemes simple.
- The farmers feel that they have produced more beneficial outputs through the Enfys funded work than they see being achieved by standard agri-environment schemes. This perspective on the lack of 'additionality' of other schemes has been supported by official evaluations (WAO 2007).
- The farmers would not have been prepared to undertake this work without the flexibility and autonomy afforded to them by the Enfys grant and WG funding. Their control over the project, and particularly the ability to design environmental works that were perceived to be appropriate to their farming systems rather than following a pre-designed scheme template, were key factors in their success.
- Farmers' desire for independence and their frustrations with administrative and regulatory burdens are well known as reasons for their lack of engagement with agri-environment schemes (WRO 2012). This can include issues of rigid timing and budgeting frameworks for schemes as well as broader design points (detailed in section 4.6 of the full report). The Pontbren Project has been successful because it has worked around these problems.
- The project has worked from the starting point of the farmers' priorities, and been driven forward by their aspirations. Their ownership of the project has ensured much greater involvement and co-operation than would otherwise be the case if they were led by external agents.
- The fact that multiple benefits have been achieved in synergy demonstrates that it is possible to work with farmers' production priorities to achieve other outcomes. This does need to be balanced, and is not intended to suggest that intensification of production should be considered as a primary goal above all else. But it does show that it is not worth pushing against people when there are opportunities to work together on aligned goals.

- The farmers have learnt a lot from the project, and their attitudes and behaviour have changed in some areas - particularly in relation to stocking densities and their understanding of catchment hydrology. This demonstrates the importance of first-hand experience and their interaction with scientists over the course of the project. Nevertheless, it is evident that the project has not fundamentally altered existing behavioural patterns or values. Rather, it has supported and enabled the farmers to develop characteristics and inclinations that were already present.
- As the project has demonstrated that supporting farmers can create wider benefits, the Pontbren group see their case as evidence that there is a recognisable function for farming, within the rural economy and society more broadly, and that they should be supported in this role.
- The group dynamic has been critical in the formation of social capital, which has reinforced the farmers' enthusiasm for the project, motivated them to work to high standards and provided a support mechanism in more difficult times. This social element has been key to unlocking and multiplying the benefits of the project.
- Working in co-operatives is not common-place in farming culture within the UK, but given the benefits realised at Pontbren further promotion of co-operative working is needed to support environmental and economic ends (Franks and Emery 2013; CCRI 2008). Co-operative working will not be appropriate for all farmers and should not be seen as a panacea, but those who are willing to engage should be provided with more support.
- Group work is particularly important to achieve environmental benefits across a catchment and on a landscape scale. Within the Pontbren Project, landscape benefits have emerged but were not planned through collaborative group mapping.
- The farmers remain cautious about catchment level planning, and particularly concerned about the steer of external agencies who would encourage trade-offs between environmental and production outcomes. For catchment level management to work, suitable incentives secured over the long-term will be needed. In addition, on-going research and knowledge exchange is required with the farmers to design appropriate mechanisms for the delivery of ecosystem services.
- Access to skilled and trusted facilitators is essential for successful group working. As Keenleyside (2013) also outlines, these support staff need to have expertise and understanding in both farming and environmental issues; as well as being sensitive and adaptive to farmers' needs. In future, the group could benefit from more support with their core farm businesses, as advisory support has centred largely on environmental concerns to date.
- Their experience with meat marketing suggests that producer co-ops and value-added branding are not the solution for everyone (see also WRO 2012).

Whilst they have learnt from the experience, ultimately they feel they cannot trust supermarkets and that power and competitive differentials are often not stacked in their favour. Similarly, selling to local markets was not successful in their area due to a poorer demographic, meaning that demand for niche produce was lower. This raises questions about the most effective options to pursue in coming years to ensure resilient supply chains. Some members of the group have continued to sell produce direct to an established customer base, but this has a high labour cost which has meant it was not appropriate for everyone.

- In relation to their farming systems, whilst the need for lower stocking densities and lowering input costs is now more accepted amongst the group, it is also clear that they perceive an increased pressure for food production coming to the fore once again. In response to these shifting agendas, the farmers stress that policy continuity over the longer term is critical to avoid contradictory messages and incentives.
- Continuity in the availability of payments is a major concern at the current juncture, as work they have done to date is now in need of maintenance to ensure the benefits continue.
- In terms of the research undertaken on-site, there is a lot of potential for Pontbren to continue working as a demonstration site. The need for more applied research is also noted as a wider (Wales-wide) recommendation going forward (WRO 2013). The Pontbren project shows that agro-forestry/agro-ecological application is a key issue to address in this regard.
- Finally, it is important to note that whilst they are a unique group in many ways, lessons from other examples of co-operative working and ecosystem service delivery do complement and reinforce those outlined here (see e.g. CCRI 2008; Wynne-Jones 2013; Wynne-Jones et al. 2013).

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Appendices

Interviews Conducted

Pontbren Farmers (interviewed individually and as a group)
Roger & Eirlys Jukes Aled and Gwyn Morris Enid Thomas Jones Margret Hughes Daniel Bates Christopher Cornes Arwel Rees Alun Davies Wyn Williams

Other interviewees
David Jenkins Coed Cymru Mike Richards Coed Cymru Jerry Langford Coed Cadu Mike Townsend Coed Cadu Tim Pagella Bangor University – Polyscapes Colin Keyse WCVA Enfys Programme Manager

Interview Schedule Pontbren Farmers

Business Structure and Change:

- Has the project helped you to improve and diversify your income? (how?)

[consider impacts of de-stocking; the attempts at developing value-added produce; the woodchip bedding and tree nursery...]
- Has the Pontbren project had any impact on 'succession' in your farm structure in terms of changes in the head of holding or how farms are organised?

Impacts of Interventions (research and business support):

- Discuss interaction with Coed Cymru
- Discuss the R&D activity and additional benefits to their farms

[via Flood Risk Management Research Centre: presentations and regular contact with the R&D community, as well as Polyscapes landscape modelling – Tim Pagella].
- How valuable has these interactions been?
- Has your understanding of environmental processes and flood risk management changed as a consequence?
- Discuss experiences with woodchip bedding R&D
- Do you feel you have benefited from the Farm Business Survey service? (how?)

Behaviour change (over the whole project period):

- Do you think your views and attitudes (towards farming and agri-environment management) have changed over the life of the Pontbren project?
- Why did you get involved in the project?
- Why have you stayed involved in the project?
- What are your current intentions with regards to the project?
- What factors affect your current decisions about the project?
- What have been the most important factors influencing your decisions over the project period?

[e.g. business, family, social, environmental understanding, policy context...]
- How do you see your personal role (in terms of the overall social dynamics of developing the project) – why has that been the case?

Lessons Learnt:

- Overall, what do you think the benefits and problems of the project have been for you?
- What lessons have you learned from the project?
- What (key) lessons do you think others should learn from Pontbren?

Policy Impact:

- Do you think that you have been able to make a contribution to Welsh Government policy development? (detail what/how...)
- What lessons from the project do you think the Welsh Government should take forward with the current processes of CAP-Reform and developing the next Rural Development Plan?

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