Supply Chain Efficiency Scheme Evaluation - Case studies

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Improving the Supply chain for Low Value Welsh Timber

This case study considers an SCES project developed and delivered by Coed Cymru. The project aimed to increase the value and utility of low value Welsh hardwood and softwood species, which comprise half of the Welsh National Forest cover. The project hinged upon driving innovation to bring new products to the market, and to facilitate and activate the development of new processes which use low value minor species.

The Tŷ Unnos system, an affordable housing system and associated components designed to use home-grown softwoods in the housing and construction industry, was a pivotal tool in developing the project activities. This, combined with broader work to provide information, encouragement and hands-on support to increase the use of Welsh Timber and to build and expand links within the Welsh timber supply chain, from forest to finished product.

1. Project development and rationale

The project was developed against the backdrop of Coed Cymru's existing activities around levering product development to create commercial incentives for sustainable woodland management. The project represented a next step in Coed Cymru's strategy of gradually moving from early initiatives around markets for gates, stiles and way marking posts with simple processing technology and a reasonable level of control, towards the higher value and more complex supply chains. Prior to SCES funding, the work on the Tŷ Unnos system in particular, had been hampered by the fact that time scales under other funding streams were never long enough to take an initial idea far enough to actually reach into the Welsh timber supply chain.

The Improving the Supply Chain for Low Value Welsh Timber (LVWT) project approach used the Tŷ Unnos system as an anchor point to trial and illustrate the benefits of using Welsh timber in construction projects and establishing new exemplary supply chain connections.

It was clear that the project needed to address long-standing issues that are deeply entrenched in timber markets. This would require a holistic approach of working with organisations at different points of a potential supply chain. The aim would be to improve industry knowledge regarding the location and potential applications of raw materials, to facilitate links in the supply chain and to explore ways in which value can be added through branding, and then providing the means by which products can be branded.

In developing and implementing the project, Coed Cymru could draw on its deep understanding and recognised position in woodland management and timber industry circles alike. A further level of consultation regarding the specifics of the project helped pin point the precise objectives for the project, but also highlighted that the challenge facing the supply chain managers was immense. The evaluation report quotes a consultee as suggesting that *'outcomes would be most appropriately gauged by assessing whether interventions arrested further deterioration in the supply chain rather than being able to deliver improvements.'*

2. Collaboration and engagement

Communicating to woodland owners the potential value of, and market for, their woodland and the advantages of better management was a key task for the project. However, the starting point for the LVWT project was one where a wide gap still existed between the project's strategic objectives and the commercial objectives of different organisations in the supply chain, from woodland owners and sawmills to construction firms and architects.

Coed Cymru succeeded in securing engagement along the supply chain by supporting many individual small steps towards equipping different supply chain players to engage with each other. This ranged from providing practical support to steadily strengthening the framework conditions for the Tŷ Unnos system to become a competitive product in the market place.

Examples of practical support include: supporting the development of low cost kiln drying technologies to enable small businesses to get their timber to the right moisture content, and working with a company in South Wales to make woodcrete tiles, to address some of the thermal performance issues identified in timber construction. Further examples of the steps taken to create commercial incentives for the whole supply chain are: active marketing and continually strengthening the marketing message, for instance, by securing appropriate certifications of the system or, taking on a role in developing methodologies to monitor the post occupation performance of timber constructed dwellings and actively marketing the Tŷ Unnos system.

Engaging the specifiers (e.g. architects specifying particular materials or components to be used) and end users of the construction system was the starting point to create market opportunities for woodland owners and small saw mills. The latter, at the same time, also needed to be supported in developing their delivery capacity. The project manager described this multi-faceted process of progressing different bits, at the same time, towards a larger whole as *'having to turn a colander into a bucket.'*

Tŷ Unnos, through the SCES project, has engaged specifiers in manufacturing companies, architectural firms and academia and has made the knowledge available to them to create the necessary 'demand pull' for Welsh timber supplies. This involved recognising the technical issues associated with their use and jointly developing innovative solutions to use them in high value added products.

In effect, the SCES project has allowed Coed Cymru to broaden the circle of businesses involved in such development work, beyond a core group of organisations that have the interest and capacity to get involved in more purely R&D focused projects, e.g. those funded through the Technology Strategy Board (TSB). This has enabled a shift towards a greater focus on

commercialisation and how supply chain problems can be weeded out. Ultimately, it is hoped that this will be the seed corn for the longer term restructuring of the industry, so that appropriate quantities of the right timber will become available.

3. Results achieved

The current Coed Cymru-commissioned project to construct a Tŷ Unnos pavilion at the Royal Welsh Show Ground is the culmination of this current phase of the development of a supply chain for Welsh timber. It is a tangible expression of the body of information that is now available on the possibilities and requirements of using Welsh softwood in the construction industry, together with a supply chain of manufacturers and professionals with the knowledge, and understanding to actively identify projects and avenues to take products to market.

Enabled only by the second tranche of SCES funding, this activity provides a focus to bring together in one tangible high profile project all the individual strands of activity that have so far been largely developed independently. The Tŷ Unnos house demonstrates that Welsh timber can be used in a technically sound building system. This has a one and a half storey fully current building regulations compliant, fully insulated and fully clad pavilion with a frame manufactured in Welshpool, windows made by a window manufacturer in North Wales, and a staircase by a North Wales manufacturer.

This project will further serve to showcase how Welsh timber supply chain partners can come together and counteract long-term trends in the timber industry of focusing the demand for higher grade timber on overseas suppliers. This will further strengthen the incentives for a wider group of Welsh woodland managers, saw mills and the construction market, to further embed the necessary connections that will give each of them individually the opportunity to establish a business outside of the highly volatile large scale global timber supply chain.

Developing the Tŷ Unnos system has allowed the Coed Cymru team to engage with a wide range and substantial number of businesses in the timber supply chain, who are now better informed and better equipped, and have gained confidence in developing their supply chain position.

Beyond the specifics of the Tŷ Unnos system, however, the project has also served to demonstrate that a market failure around innovation in the timber market can be overcome by an organisation, such as Coed Cymru, undertaking highly specific R&D around products, processes and technologies in different product markets. Coed Cymru's detailed technical understanding, combined with its position in the wider woodland management Community of Practice in Wales is a key ingredient, but without the funding that the SCE Scheme offered in the middle ground between LEADER and the larger R&D funding pots, this could not have come into its own.

4. Implementation arrangements

The process of developing the Tŷ Unnos product is the core building block of the Coed Cymru project. It creates an exemplary platform to engage different players in the (potential) supply chain. It is an opportunity to consider the detailed implications of creating commercial opportunities for Welsh timber and a catalyst to bring all these disparate players together. It's important to note, however, that the project objectives are not directly related to marketing Tŷ Unnos as a product. Instead, the work done in upskilling and asking the whole range of questions that need to be clarified, if greater market opportunities for Welsh timber are to be created, is applicable to any system wanting to use Welsh timber.

To again quote the project manager, *'when you're working with the whole stream from academics who are interested in looking at one tiny part of the system to somebody growing trees, you need a solid something to focus on.'*

The initial evaluation report at project inception highlighted that *'clearly, the process involved in building the supply chain involves a lot of small steps, the impact of which will be largely intangible in this, the very early stages of the project.'*

In line with the fragmented and diverse nature of the industry networks, the early phases of the project have been protracted and involved many initial meetings. While these early results remained largely intangible, it is now clear that a lot of the groundwork was done at that stage in terms of awareness-raising and knowledge transfer, through Coed Cymru being called upon for individual aspects of a number of different projects (e.g. somebody's house, a class room or an office building). According to the project manager, *'creating the initial incentive in the market for people to want to contact Coed Cymru has been a hard job – we are finally just turning a corner.'*

In project management terms, sustaining a clear focus that would allow the team to remain flexible enough to prioritise next steps as possible supply chain linkages were emerging, while at the same time working towards a clear understanding of how individual steps could be orchestrated to deliver on a greater whole was the key challenge. Gained through a long-standing involvement in RDP initiatives, from Farming Connect to LEADER, as well as innovation and R&D supported through other sources (e.g. TSB, the Timber Research and Development Association) Coed Cymru's strong understanding of market conditions, different players' roles and abilities in different supply chain settings and the technical requirements for different kinds of products were vital in delivering such focused flexibility.

Equally vital, however, was the high level of flexibility of the SCE Scheme, which meant that project outputs and milestones could be defined and adjusted as the precise development journey unfolded. Similarly, the high intervention rate was crucial, as much of this work needs to start at quite a

conceptual stage. In this particular instance, it was well into the project before private sector partners could be engaged.

Other RDP resources also helped in ensuring sound foundations for individual companies' involvement in developing the supply chain, for instance, by taking advantage of a Processing and Marketing Grant Knowledge Transfer project offering funding for small saw mills to attend a highly specialised course in timber grading.

5. Sustainability/ legacy/ impact of project

The impression is that industry links have become stronger and, while clearly a further facilitation role would help secure next steps, the hope is that these will now be strong enough for cooperation to continue. There are early signs of woodland owners and saw mills, in particular, wishing to gain greater planning security through stronger supply chain relationships.

The project manager recognised that overall, this has delivered only a *'tiny step along the journey'* which can inform the next step towards strengthening the Welsh timber supply chain, and make an impact on sustainable woodland management. Even in the construction market itself, a lot more needs to be done to take the achievements through to a full restructuring of the timber supply chain at scale.

In a fast moving global commodity market, it is also important to note that price fluctuations and market conditions will have an impact on the willingness of supply chain players to engage with what amounts to a reinvention of the supply chain and the risk associated with this. None of the gains made will be set in stone, as product innovation will continually shift with relationships in global supply chains, and Welsh players will need to keep reinventing themselves.

However, the project will leave a portfolio of work that is accessible to the wider timber supply chain. The website will codify this legacy, but Coed Cymru as an organisation also prioritises communication and dissemination with regular talks, events and contributions to projects and activities happening as a matter of course.

6. Lessons learnt

In practical terms, with hindsight, it is clear how much of an uphill task the project has had. The project team have had to assimilate a lot of core industry knowledge and information quickly before being in a position to provide the support with confidence. Having a bigger team, with more practical knowledge embedded within it would have helped speed things up. However, this would have pre-empted decisions regarding the direction of the project to some extent. An approach of 'back-loading' the project funding, so that leads that are identified in the early stages can be followed up by an increase in appropriate resource, might have been an alternative way of enabling maximum responsiveness for the project.

From a policy perspective, it needs to be recognised that any work to develop the timber supply chain has to deal with the fact that although timber is a crop, it takes a minimum of 40 years to grow, so that any change in public funding and perception of timber and what it should be used for is on a different time frame to say cattle or potatoes. Trees have a large part to play in the Welsh environment, from air quality and water management to biodiversity, but securing these functions will to a large extent depend on timber production, as growers need to be able to earn money through selling timber.

There would have been an opportunity for policy players to make more active use of the work undertaken, for instance, by establishing a 'policy peer' for the project (and for other SCES projects). This would have been a useful opportunity to ensure a strong feedback loop into policy. Such a strong feedback loop is important – an aspect highlighted in the initial evaluation

report for the project - as in spite of the results achieved by the project, the long-term perspective of the timber market combined with price volatility will require a sustained public sector, or at least public good commitment to supporting change. Realigning Welsh supply with demand at a larger scale requires a sizeable lead-time to build stocks of dried timber. The Coed Cymru project has illustrated that there are actors within the sector who are willing to engage in the longer term strategic goals of the project, but the issue of who should bear the brunt of the financial risk, given current inadequacies in the supply chain remains.

Better Organic Business Links (BOBL) Case Study

1. Project development and rationale

The 'Better Organic Business Links' (BOBL) project aimed to increase demand and markets for organic produce, with a strong emphasis on the home market. The project sought to do this by developing new, emerging and existing markets for organic produce whilst driving efficiency, at all levels, within the organic supply chain. The BOBL project also sought to provide market information on the sector and improve consumer understanding of the benefits of organic production.

The project bid was submitted by Organic Centre Wales (OCW) based at Aberystwyth University with a number of named partners, including the Soil Association, Elm Farm Organic Research Centre, ADAS and the Food Ethics Council who were also sub contracted to deliver various aspects of the project.

The project was developed in the context of a growing and buoyant organics market and sought to make a number of supply chain interventions where problems and opportunities for development and extension had been identified by the OCW team, in the second Organic Action Plan[1], as well as wider consultation with the sector. The majority of previous support had mainly been targeted at primary producers; BOBL was novel in seeking to deliver support 'beyond the farm gate'.

The project approach comprised five main delivery areas (which included various strands of activity and projects):

i) Driving innovation in the Welsh organic agri-food sector;
ii) Consumer information and image development of organic food and farming in Wales;

[1] http://www.organiccentrewales.org.uk/uploads/orgactionplan2.pdf

iii) Developing markets for Welsh organic farm and food businesses for public procurement, catering, export and organic food-tourism service/catering;

iv) Infrastructure for improvement of organic supply chain intelligence; and

v) Addressing key structural problems within the organic sector.

While the rationale for the project approach was valid at its design stage, project delivery occurred during the economic recession and subsequent downturn in the organics sector, meaning that the priorities for the sector changed from growth to survival, one interviewee described the situation as follows:*"by the time the project was implemented, the recession was in full swing…supermarkets, the main buyers were removing organic produce from their shelves and for many businesses it was a case of doing enough to survive".*

This contributed to a change in project focus and delivery structure in 2011. In particular, the project attempted to address market decline by increasing emphasis on marketing and promotion of the organics sector. However, the formulation of appropriate and effective marketing messages that were universally supported by the sector and suited to influence consumer buying behaviour, represented a considerable challenge for the project. One interviewee suggested that more intensive market research would have been necessary for an effective PR campaign. Likewise, in the challenging economic climate, elements of the project, that were perceived to be 'non-essential' such as the ethical toolkit struggled, as businesses focussed on survival and did not have the resources to participate in such activities.

2. Collaboration and engagement

Engagement of beneficiaries was acknowledged as challenging but did improve over time, as the benefits of participation in the project were becoming known. OCW had good existing relationships with the sector, which

together with field officers meeting businesses, helped identify issues and encourage collaboration. Interviewees confirmed that the sector had been engaged extensively, both in BOBL's design and in helping sustain the relevance of project activities at key project milestones.

It was easier to engage participants around specific issues - such as insufficient organic abattoir certification in Monmouthshire – than in more generic collaborative activities where participants did not necessarily see the long-term benefits. The establishment of the Welsh Grain Forum, for instance, brought together a diverse group with the aim of responding to potential opportunities of developing Welsh grain products.

Some participants struggled with an initial perception that the project was encouraging more businesses to enter the sector in a challenging climate, to the detriment of those that were already established. This was a common theme across a number of organic supply chains. Only in the past 18 months have supply chain collaborations bedded in and been sustained without BOBL support.

Another possible issue affecting engagement and collaboration was a common perception amongst organic businesses that BOBL would facilitate direct grant funding. Some elements of the sector therefore struggled to understand the capacity building concept of the project.

Awareness of the SCES as a whole varied between the different elements of the project with organic businesses having some awareness, whereas for the community groups engaged, BOBL and SCES was one of many schemes they were involved in. Engagement in the community aspects of BOBL was therefore relatively straightforward, as much of the emphasis was on the provision of support to other organisations.

3. Results achieved

The main beneficiaries of the project have been supply chain businesses, with one interviewee suggesting this was *"ground breaking in itself",* as previous initiatives had solely targeted producers. Existing primary producers who should have benefitted from the expansion of the market facilitated by BOBL, instead suffered due its contraction. One interviewee suggested that over the period of the project, the organic land area of Wales reduced, with many producers choosing to opt out of organic certification.

A number of examples help illustrate the innovation results achieved:

- The uptake and refinement in the use of social media was a novel element for the sector, with many businesses putting videos on their website, as a result of a BOBL sponsored video editing course.
- The ethical toolkit to help businesses communicate their values was an innovative practice in both the organics and other sectors.
- The consumer information element sought to identify and clarify consumer beliefs around the organics sector and address areas of antagonism between the organics and 'traditional' farming sector that were common at the time.
- A number of project activities, while not new to the world, were innovative for the organics sector in Wales (e.g. community supported agriculture, using sunflower feeds as organic poultry feed).

BOBL has addressed a number of supply chain issues constraining the sector in Wales, by supporting collaboration to address supply chain issues, and exploring opportunities. A case in point was the development of a Welsh Grain Forum, built on the growing interest and demand for local grain products, which fostered links between the different types of businesses in the supply chain (producers, brewers, bakers, thatchers etc). BOBL supported the group to disseminate research on grain varieties and funded promotional materials, study tours and workshops.

BOBL also addressed structural issues in a variety of supply chains, including by disseminating information on alternative poultry feed products, in response to a shortage of organic compatible products. A variety of activities in the wool supply chain were also undertaken, including facilitating relationships between organic wool producers and mattress manufacturers. BOBL also responded to the lack of organic certified abattoirs in the Monmouthshire locale by working with abattoirs to identify the supply base and support organic accreditation.

In terms of the community element, food values and the role of organics is gaining greater recognition on the policy agenda. There are indications that BOBL's Food Values project may have influenced attitudes and behaviour to food more generally.

While BOBL's successes have been acknowledged, stakeholders and participants have questioned its scale of impact, with suggestions that the project has been good at supporting new businesses coming into the sector, but less successful at working with larger organisations and producer groups. Furthermore, the collection of market intelligence has been limited by the difficulties of collecting data on a relatively small sector in a relatively small region.

4. Implementation arrangements

The project deployed a range of tools across its five areas of activity: development of sustainability and ethical toolkits; branding and consumer campaigns; direct work with consumers[2] (e.g. consumer attitude surveys, farm open days, food education events and work with community groups); facilitation of collaborative activity; data collection and intelligence gathering; and facilitating brokering and networking opportunities (e.g. trade fairs, working with public sector procurers).

The complexity of the project and its broad scope has meant that it took some time for both the direction of the project and the best way of delivering it to be identified, but in later years it has become better understood by the sector. In addition, the project experienced a turnover of personnel, in particular changes in OCW directors, over its lifetime, which may have caused issues with continuity and direction. It was also reported that recruitment to the project was constrained by wider University organisational issues.

[2] See Food Values Project: https://foodvaluesblog.wordpress.com/

BOBL's delivery structure changed over the lifetime of the project. In the initial stages, much of the project was delivered through external contractors, the rationale being that this would build capacity in Wales rather than within a small team that would then be dispersed at the end of the project. In 2011, project delivery was revised with much of it being brought 'in house' to OCW. The amount of time and expertise required to manage the contracted work appears to have been under-estimated. In addition, it was suggested that the contracting out of project delivery had resulted in 'silos' of activity, with a lack of join up and alignment between different elements of the project (e.g. for example the marketing campaign messages not adequately reflecting the findings from the consumer and community engagement aspects).

Oversight and governance of the project also caused some issues as the project wasn't able to remunerate steering group attendance, this may have affected its ability to gain the anticipated level of industry input, although more informal channels for consultation and feedback were used throughout the project.

BOBL through OCW was aligned with a number of other SCES and RDP activities, including the Developing Horticulture Supply Chains Project and Farming Connect. However, the extent of representation and consideration of the organics sector in these initiatives was queried.

5. Sustainability/legacy/impact of project

News, information and data gathered in relation to the project have been published on the OCW website and there are plans to archive this information into a legacy website, so it is easily accessible in the long-term. It was also noted that the project embraced social media channels early on, although there are mixed views on how effectively these have been used to promote wider learning from the project.

The ongoing activities of BOBL supported groups such as the Welsh Grain Forum, suggests that the project has succeeded in building capacity in the sector, and will ensure sustained activity. However, there is consensus amongst stakeholders that the organics sector in Wales has still not returned to its pre-recession size, with the sector in Wales being underrepresented and in need of continued support. This is particularly in terms of addressing ongoing structural issues, procurement and supply chain development.

An organics strategy conference was held by OCW at the end of May 2015, to look back at BOBL and the organics sector over the previous five years, and discuss challenges and opportunities for the sector over the next five years. OCW plans to apply learning from discussions at this conference and BOBL into its organics sector strategy up to 2020.

6. Lessons learnt

As with many projects of this kind, it has only been in its latter years that BOBL has gained clarity in its focus and delivery. It has been acknowledged that it was a complex project and that it took time for the sector to understand its aims and bed in. The ability of BOBL to change focus and delivery mechanisms in response to wider structural issues is recognised.

While it is generally agreed that post BOBL the sector is more aware of the supply chains and markets it operates in, the amount of market intelligence is still limited and needs to be addressed, ideally in partnership with other sectors who have pre-existing systems for such data capture (e.g. red meat sector through HCC).

Developing Horticulture Supply Chains Project Case Study

1. Project development and rationale

Delivered by Glyndwr University, the Horticulture Supply Chains project expanded on an earlier Interreg project to deliver pan Wales support to the horticultural sector in Wales. The horticultural sector was, and still is, characterised by geographic dispersion and market/supply chain diversity (e.g. edibles, ornamentals). It is also populated by a large number of micro businesses, many of which could be described as lifestyle businesses, and low levels of knowledge and understanding in terms of accessing supply chain opportunities and improving market profile.

Lessons from the earlier Interreg project and alongside consultation with the sector including project stakeholders such as Organic Centre Wales (OCW) and the Centre for Alternative Land Use[3], suggested that there was a need to work in the sector to provide support relating to such matters as crop choice and management, growing and harvesting and general business advice. In addition, the project aimed to gain greater understanding of the sector in Wales, as there was a lot of anecdotal evidence on its structure and demographics but little hard evidence.

The project structure was developed in partnership with SCES, which having received a number of project applications with horticulture elements, wanted to avoid duplication and so encouraged amalgamation of a number of activities proposed into this project.

The project was delivered via five work packages: supply chain and market information; brand development; integrated supply chain links; workforce development; and environmental and sustainability needs analysis. The project as a whole did not have a clear aim, or seek to address specific issues beyond facilitating knowledge transfer, instead the individual work packages

[3] Delivered the land management element of Farming Connect up to 2013

were designed to address specific objectives and meet set performance indicators.

Given the length of the project and change in economic circumstances, industry and technical developments, the project did change focus. For example, to respond to technological developments in the use of mobile applications and QR (Quick Response) codes, matrix barcodes that can be read and processed by imaging devices are now used in product tracking and general marketing. Also, in the project extension period there has been greater emphasis on study tours and themed events, as they have proved to be popular and beneficial to participants. However, prior to the amendment of the project delivery model in 2013 (see 'Implementation Arrangements') project partners felt there was a lack of clarity about what they were meant to be delivering and with what purpose.

2. Collaboration and engagement

Engagement in the project was initially challenging and hindered by the legacy of previous support schemes, with many businesses losing interest when they became aware that they would not have direct access to grant money. According to stakeholders, many of the businesses in the sector could be described as individualistic, making collaboration even more challenging. Incentivisation to both engage and collaborate in the project was facilitated by recruiting experienced Field Officers to build relationships 'on the ground' to get the 'early adopters' involved in the project at its early stages, and using case studies of their success to promote the value of the project to the rest of the sector.

While common practice for other sectors, the major innovation delivered by the project has been the sharing of information and understanding about the supply chain. As described, the sector is disparate, so integrating different elements has been challenging when there are no obvious trading links. In

addition, entry to the sector is described as 'easy' and as one where *"many producers are in the business because they love flowers".*

3. Results achieved

A range of performance indicators were attached to each work package, and adjusted in line with market changes – these indicators have been met. The project's results have been less focused on products, processes and technologies and more focussed on softer outcomes, with improvements in the levels of knowledge and understanding of the sector being key. Seminars and training, study tours and development of toolkits and calculators have exposed the sector to new ideas and techniques.

Behaviour change has been observed, for instance in an increased willingness and capacity to collaborate, as evidenced by the establishment and continued activity of a number of supplier discussion groups (e.g. All Wales Growing Group and the South West Ornamentals Group) and joint working (e.g. producers working together to fulfil large orders).

The level of investment by the sector is also low compared to traditional production, consequently business skills and market knowledge is often limited. What the project succeeded in doing was facilitating the sharing of best practice from bigger to smaller businesses, by providing opportunities for producers and buyers of all sizes to meet and acquire knowledge on pricing and quality standards. Study tours have been identified as a particularly successful element of the project, allowing producers to see what others are doing both in the UK and internationally, participants gaining better knowledge and understanding from seeing practical rather than theoretical applications.

4. Implementation arrangements

The project was implemented using a range of tools and techniques, including study tours, case studies and information films to demonstrate best practice, disseminating information on quality assurance schemes and standards,

market analysis of a range of sub sectors, packaging, crop calculator and new product development toolkits and producing promotional materials (such as recipe books) and facilitation of collaboration working.

As the Welsh Government notes in its SCES summary document,[4], given the wide range of organisations involved in the sector there was a clear need for an effective coordination mechanism to support it, but uncertainty over how that might be achieved. The project application was originally made by the Welsh College of Horticulture, but following reorganisation of the college, the newly created Glyndwr University took over responsibility for it. While the Welsh College was recognised as well placed to lead the project, Glyndwr University needed to work harder to demonstrate their relevance and credibility with the horticulture sector.

Some stakeholders highlighted that the project management structure created issues for the project, for instance causing delays because of overly centralised decision-making. Throughout the project, wider communication with the sector was facilitated by a project website and monthly newsletter, as well as constant informal communication with beneficiaries to feedback into project delivery. However, the project struggled to get sufficient and consistent business input on the project steering group, as many did not see any direct benefit to their participation.

ADAS and Organic Centre Wales (OCW) were originally listed as strategic partners on the project. However, in 2013 the Welsh Government approved a change to the delivery model, in order to create greater clarity regarding the role of the different project partners. Glyndwr University continued as the lead organisation whereas ADAS and OCW continued their involvement on a contract delivery basis. Some interviewees saw this reorganisation as making project direction and delivery more difficult.

[4] Welsh Government (2011) Supply Chain Efficiencies Scheme – Project Summary Report

The project aligned with a number of SCES projects and RDP activities. In order to avoid duplication, there was an early agreement between OCW and the Welsh Horticultural College that the Horticulture Supply Chains project would deliver some activities that were originally proposed to be delivered under the BOBL project. In addition, the project worked with Cywain, Growing the Future, Tyfu Pobl and with other organisations, such as Pembrokeshire County Council to deliver activities for growers in the council that they could not fund.

5. Sustainability/legacy/impact of project

The project website hosts a range of resources including videos and reports for the sector to access. The 'Bringing Growers Together' conference held in March 2015 brought renowned speakers from the industry, growers and project participants together to share ideas and insight, and discuss the future challenges.

In terms of policy learning, one of the biggest achievements of the project has been the amount of data it has collected on the sector in Wales, allowing a clearer picture of its size and structure to be developed.

The project management team have been working to ensure that horticulture is better represented in future RDP programmes and identify common issues and opportunities with other sectors. For example, a grant scheme for quarantining animals could be extended to apply to the requirements around quarantining new plants.

6. Lessons learnt

The major lesson learnt was that project communication and marketing infrastructure (such as a dedicated marketing communications officer and website) should have been embedded in the project at its inception. While stakeholder and industry views were valued in terms of ensuring the project

was meeting industry needs, the role of experienced project personnel in driving the ambition of the project could have been utilised more.

Major barriers and issues identified by stakeholders and interviewees have included the noted concern regarding delays in recruitment arising from the change from the management role of the former Welsh College of Horticulture to that of Glyndwr University. These were seen to have hindered the project's ability to take advantage of opportunities.

The revision of the delivery model has also raised concerns that some elements of the project weren't delivered as originally planned, and that this was somewhat compounded by the lack of central guidance around the delivery of the SCES scheme. Therefore, while the flexibility and pilot nature of the Scheme was welcomed, it may in this case, have led to an element of uncertainty and more guidance may have resulted in the confidence to do things quicker.

Case Study – ProSoil

1. Project development and rationale

The aim of the ProSoil project was to collaboratively test and develop the concept that optimising soil health within primary agricultural systems can improve the financial efficiency of livestock production, in an environmentally-sensitive way. The project also tested and developed the idea that the quality of agricultural food products is dependent on the health of the soil on which it was produced.

The project rationale is based on the observation that the dairy and meat supply chain (processors and retailers) has identified that the taste, texture and perceptions of nutritional and health benefits of agricultural products, are critical in forming the views of consumers regarding the overall 'quality' of the product. However, scientific studies suggest that modern agricultural practices tend not to support the production of meat and dairy products with the range of the minerals, vitamins and trace elements required for human health.

The approach taken by the project was to develop a pan-Wales producer-led co-operation, to support participants to think about and take action on managing their soils, in such a way that the productivity of their farms and its products can be optimised. To achieve this, the ProSoil project chose to develop collaborations between producers and the supply chain, as the platform for producing high quality agricultural products and in an environmentally sensitive manner.

The project adopted three objectives:

- Objective 1: To develop producer co-operation to monitor the effects of optimising soil health, at key farm locations across Wales, to improve the production efficiency and quality of meat and dairy products throughout the agricultural supply chain industry.

- Objective 2: To determine scientifically the impact of different soil management approaches and their ability to improve soil health; and their effects on forage and livestock productivity and quality.
- Objective 3: To effectively market the project and provide a comprehensive report, including a financial cost-benefit and socio-economic impact assessment, of the project and the key findings.

Each of these Objectives were given, by the project managers, clear milestones and targets which, objectively have all been achieved. This proved to be a successful management approach that enabled a clear focus to be maintained, with adjustments being accommodated as required, across the extended project life.

2. Collaboration and engagement

Collaboration and engagement with farmers was a key objective of the ProSoil project, and was a fundamental part of the implementation and delivery approach adopted. The project team, based on its previous experience and contacts through the work of the host organisation (Aberystwyth University's IBERS) identified nine livestock farms across Wales and engaged them to create a network of commercial development farms (CD), willing to work with and report on the use of different soil management approaches aimed at improving soil health. Through working with the individual farmers, the PROSOIL project currently has a well-established network of CD farms, actively engaged in promoting the importance of 'healthy' soils on livestock farms across Wales.

The independent project evaluators reported that while some of the CD farmers were initially sceptical about participating in the project, being wary of the number of farm initiatives currently being delivered in Wales, along with a perception that research can place costs on the farmer and leave the farmer feeling undervalued. However, CD farmers subsequently commended the

project for providing good levels of support for development farms. The CD farmers are now regarded as key members of the PROSOIL team, helping to increase the engagement of the project across the farming community, and providing feedback on the research needs.

The incentives for CD farmers to participate in the project were to satisfy their existing interest in soil management activities and its connection to increased productivity, but they reported that they also valued the partnership approach underpinning the project. CD farmers gained the opportunity to have early access to the project's research findings and to influence the direction of the project and its research.

For the University, engaging with the commercial development farms has also been a very positive experience, allowing the development of both academic and commercial research results in parallel and to apply and disseminate research results quickly and efficiently. This experience is directly in line with the broad strategic aim of IBERs which is to: *'… work with academic and industrial partners, developing and translating innovative bioscience research into solutions….'*

In addition to the network of commercial development farms, IBERS created a project stakeholder committee consisting of members from NFU Cymru, the Farmers Union of Wales (FUW), Food Centre Wales, Hybu Cig Cymru, farmers, DairyCo, Farming Connect, Environment Agency, abattoirs, co-operatives and food processors.

3. Results achieved

The ProSoil project managers believe that the key milestones for each objective have been completed, and note, in particular, the continued engagement with the commercial development farmers who are still actively involved in the project aims and objectives. In addition, the project profile has been high and is being maintained through articles in the farming press, and

national and international scientific conferences and events. Here, the reputation and standing of IBERS as an academic and applied research institute is proving pivotal.

The ProSoil project managers believe that the project has led CD farmers to adopt a more scientific approach to farm management and enabled them to generate effective benchmarking data on performance. Data monitoring and collection among CD farmers has greatly improved over the course of the project.

Data from the ProSoil research continues to be collated and initial results expanded through the addition of further data to be collected to scientifically validate the findings. It is anticipated that these results will be disseminated through the farming supply chain. The benefits created for farmers so far are relatively minor and are seen by the ProSoil team as still at an early stage of development and application. Therefore, the benefits of the ProSoil project will only appear at a much longer time scale than has been possible so far, even with the six year SCES time horizon applied.

More broadly, the independent evaluation also interviewed the CD farmers noting that they recognised the value of the results of the ProSoil project to the future of the farming industry in Wales. In particular, the CD farmers noted that the quality of their primary outputs relates closely to the quality of grassland and soil, and by improving these elements production can be maximised and quality and profitability improved.

The ProSoil aim is to continue to develop and build on the relationships with the commercial development farms. It also aims to expand the network of farmers and stakeholders within the supply chain to work together to further develop the understanding of changing the approaches to soil management on Welsh livestock farms.

4. Implementation arrangements

The key part of the ProSoil project has been to facilitate collaborative work, with producers themselves doing the work to create research results in the field. Therefore, the engagement with the network of commercial development farms at sites across Wales has been critical. This has allowed CD farms to host a number of important farm open events, organised by the project, to ensure the effective dissemination of ProSoil across livestock farms in Wales.

Further, as part of the experimental approaches used by the project and tested by the CD farmers, there has been a degree of technology transfer and, on a minor scale, the testing of innovative approaches to improve soil treatments and soil quality. For example, the experiment of using daffodils as a way of monitoring the best time when farms across Wales should fertilise their fields.

The independent evaluation reported that the CD farmers made the point that because of a natural and persistent scepticism regarding farming research, such research needs to be delivered in the industry itself, rather than in a laboratory setting before it will be accepted by the farming industry.

The ProSoil project benefited from a marketing strategy to raise awareness of the research, both to the supply chain and the farming community in Wales. Typically, marketing has included a project brochure, regular newsletters and a website. The ProSoil project teams and activities have adopted a highly visible stand at major events, such as the twice yearly Royal Welsh Show, supplemented by more direct open farm events at each of the development farms and at IBERS itself in Aberystwyth.

There remains, however, a feeling amongst some stakeholders interviewed that the ProSoil project, in targeting a relatively small number of commercial development farmers for implementation, has potentially alienated some other farmers who may not feel that they have gained the sort of support provided

to the CD farmers. For example, one stakeholder commented that '*…with the focus on a small number of beneficiaries, although other farmers could get information, they couldn't get support – which was what the sector needs.* Another commented that *'There has been a lack of dissemination and the project has been too 'academic' in nature.'* These comments seem to reflect a problem with an applied research project such as the ProSoil project. In order to obtain the robust evidence needed to better inform the primary producer or supply chain activities, targeting is required, and lengthy timescales are inevitable if the experimental approaches are to be given time to mature and show results.

Therefore, as the independent evaluators note, *'Although there has been a great deal of promotion surrounding the awareness of the project, there is a feeling among the Project Advisory Committee and participant farmers that the marketing of the project findings still has some way to go in terms of reaching its expected potential.'* The ProSoil project team was aware of the underlying concerns regarding 'reach' and 'access' and responded to some extent by, in an extension to the project, setting up new regional farmer development groups. These built on the network of commercial development farmers who now act as ambassadors to regional development farmer workshops and further encouraging farmer participation. The regional development groups are seen by the ProSoil team as substantially strengthening the project's engagement and opportunities for wider dissemination, as well as providing 'face-to-face exchange' with the wider farming and supply chain community.

5. Sustainability/ legacy/ impact of project

A number of CD farmers are reported to be beginning to combine their traditional farming methods with more scientific approaches tested during the ProSoil project activities. This suggests that there will be a legacy of sustainable behaviour change among the ProSoil network of development farmers.

The ProSoil managers and a number of stakeholders feel that there is scope for mainstreaming many of the approaches and techniques piloted by the project as advice and guidance that will help improve soil health. For example, by feeding the learning from the project into general farming advice and support, such as provided through Farming Connect.

6. Lessons learnt

The ProSoil project has clearly raised interest in the project from the farming industry, as well as the wider farming community. However, in order to remain relevant and to optimise the benefits to Welsh agricultural supply chains, the project will need to improve its accessibility and overall levels of engagement to create more widespread behaviour change in the industry. Here, it is planned that case studies from each of the development farms will be developed, to allow the wider farming community to learn about the actual experiences and gains made by the commercial development farms.

Similarly, the project has been able to engage farmers by stimulating their interest in technology approaches to improving their soil quality, but there remains a gap between interest and action. This requires a focus on changing management practices, and better information and analysis of the cost effectiveness of new approaches, compared with traditional approaches.

HCC Genetic improvements

1. Project development and rationale

The Genetic Improvement project (GI) was managed by Hybu Cig Cymru - Meat Promotion Wales (HCC). This was a five year project beginning in October 2008, with project closure being achieved as planned in June 2013.

It was important for HCC that, firstly, the GI project was a pilot project with no long term financial implications for the core levy-based funded activities of HCC. Secondly, that the benefits to the red meat industry as a result of the project could be clearly demonstrated and that, thirdly, breeders and processors participating in the project would make an investment in the activities in which they participated.

The rationale for the project was based on the established evidence that genetic improvements in the maternal lines of sheep and beef herds bring numerous benefits for the animals (calving, more lambs, better milk production etc.), breeders (higher growth rates, improved health and welfare) and for the downstream supply chain (leaner meat, supplying to market requirements). Further, once these improvements are achieved there is evidence that they, if continuously utilised, will produce cumulative benefits passing down into later generations of the flocks and herds and continue to benefit breeders and the supply chain. However, despite many years of evidence supporting the benefits of performance recording, amongst both pedigree and commercial breeders, uptake is still relatively low[5].

In developing the GI project it was identified that there is a range of market failures at play. These included: relatively simple failures in accessing and interpreting the information on the financial benefits that can be achieved through performance recording, through to more systemic issues of aversion to risk amongst farmers and breeders, where 'father and grandfather'

[5] IBERS (2009) An evaluation of current sheep breeding in Wales.

knowledge is frequently valued above methods based on either science or evidence.

The GI project was therefore designed to raise awareness and promote uptake of genetic improvement within the Welsh lamb and beef sectors, by targeting breeders within the industry in Wales.

This targeted approach was designed because, while there are over 13,000 cattle and sheep farmers in Wales, there are only about 700 pedigree sheep and beef breeders[6]. Therefore, by targeting breeders, the 'market' that needed to be contacted and influenced was smaller and more manageable. The breeders also represented an important node within the supply chain. They were able to generate an awareness of the benefits of GI and performance recording to sheep and cattle farmers on the one hand and to meat processors on the other.

The GI project as originally proposed included a number of activities including:

- Advice and support with performance recording for pedigree sheep and beef farmers;
- Funding support for Artificial Insemination (AI) of semen from superior genetic rams and bulls; and
- Funding support for Embryo Transfer (ET) to fast track genetic progress of the flock or herd.

As the GI project progressed, additional activities were added to the project. These included:

- A Genomic testing programme; and
- Specific genetic improvement initiatives for Welsh Black Cattle.

To ensure the project was effectively managed and focused, Hybu Cig Cymru (HCC) appointed a team led by a project executive, project officer and

[6] Farming Facts and Figures, Wales 2013

administrative support to deliver the GI project, reporting to HCC's industry development manager. In addition, HCC contracted with specialist technical advisers to deliver aspects of the project. These included Performance Recording and the AI or ET activities. Breeders were able to contract individually with the expert subcontractors, with the incentive of being able to reclaim part of the costs from the GI project.

The delivery approach proved both popular and successful, with the initial targets for the introduction of 'desirable traits' in herds and flocks being exceeded in the first year of the project. HCC therefore recalibrated and set higher targets for the remainder of the project. At the project end in 2013, the GI project had, on the evidence of the independent evaluation, exceeded performance against the revised output targets for each area of project activity.

2. Collaboration and engagement

At the planning stage of the GI project, it was recognised that probably the key challenge was to secure industry engagement. As noted, this was achieved by a targeted approach with Wales' 700 or so pedigree sheep and beef breeders being the primary target group.

A key step here was to engage with the Breed Societies active across the industry in Wales, taking advantage of the fact that all breeders are likely to be members of at least one and in some cases, many more Breed Societies.

In addition, working with Breed Societies and breeders themselves, the GI project developed, a database of sheep and beef breeders. All breeders on the database were contacted by the GI project encouraging them to sign up to the project's performance recording activities and then to participate actively in the support activities, to allow them to introduce 'premier genetics' through, either or both, AI or ET.

Farm visits and breeder meetings were undertaken by the GI project, taking advantage of Farming Connect meetings where possible and appropriate. At these meetings and visits, the benefits of techniques such as performance recording and estimated breeding values were explained, and the incentives and supports available to breeders to participate in the project activities set out. The project managers soon found that in order to promote collaboration and support cooperation amongst breeders to share performance results, it was important to demonstrate that the recording of performance was of benefit to all breeders. This recorded data provided them with a demonstrable track record for their breeds and herds, allowing the financial benefits of investing in 'premier genetic' stock to be reflected in the market prices obtained.

Four booklets were produced to raise awareness of genetic improvement and the availability of associated support and training. In addition, HCC established and managed a bespoke website which became widely used.

3. Results achieved

The key objectives for the GI project were to raise awareness, understanding and uptake of performance recording, and various other scientific techniques available to effect genetic improvement in sheep and beef breeds and herds. While it was certainly important to monitor and assess the financial and economic benefits to the breeders and the supply chains involved, it was even more important to assess the extent to which attitudes were changed as a result of project activities, and the extent to which future investments were likely to be made by breeders without the GI investment support.

Therefore, to assess the impact of the project, participant surveys were undertaken by the project evaluators to allow change to be measured and assess participants' views on, and understanding of, genetic improvement, the benefits to their business and, where possible, their views on the benefits to the wider industry. Different responses were gained across the various sectors and supply chains involved in the project. For example, breeders of

rams reported that selection based on performance recording had improved the performance (growth rates/conformation) of their flock, and that using rams with high Estimated Breeding Values (EBVs) / Index had a positive effect on their flock.

The project results also highlighted a substantial increase in commercial buyers buying rams based on the performance recording evidence (EBVs). This amounted to increases across the project and strongly supports the achievement of a culture change in the industry and supply chain that the GI project set out to achieve.

Similar results were achieved in other breed areas, such as bulls where 98% of those surveyed said this type of project is of benefit to the whole industry, and 90% were confident that they were fully understanding of how they could select a bull on performance figures. However, as an indication of the extent of market failure that remained in 2013, almost half of breeders still felt that looks/type was the most important factor when selecting replacement cattle.

The independent evaluators assessed the combined net annual impacts for the project as £268,859 during the life of the project, representing a 33% return over the life of the project. However, the evaluators were careful to emphasise that the nature of the gains achieved through genetic improvements will persist beyond the life of the project.

The survey results and views of stakeholders reflect that although the GI project was of limited timescale and extent, focussing only on breeders as a targeted group, there is evidence of changed behaviour in relation to attitudes towards performance recording, predicting genetic improvement and future breeding decisions.

Overall, it may be said that the project is likely to encourage wider change amongst the industry, as the benefits are communicated to the primary producers in the farming community as well as through the supply chain.

4. Implementation arrangements

The GI project was based substantially around an implementation model that focussed on providing breeders with market intelligence in the first instance, and then encouraging their participation in generating their own contribution to market intelligence and benchmarking, through participation in specifically targeted performance recording activities.

Further, getting involved with the GI project also allowed breeders to take advantage of funding and consultancy support to access technology transfer and consultancy delivered by commercials providers. The key aspect here was that while costs were shared between the project and the breeders, the benefits accrue primarily to the breeders in the short term, with the benefits cascading down through the supply chain and with the long term benchmarking of performance in respect of breeding and commercial outputs being shared with the GI project.

Recognising that the ultimate aim was to overcome market failure and lack of information and awareness, the GI project was able to work with the Breed Societies and Farming Connect, as well as more local initiatives and networks, to reach the target market of beneficiaries and those with the most direct benefit to gain from participation in the GI project activities i.e. the breeders.

5. Sustainability/ legacy/ impact of project

The GI project activities and the evaluation of the results obtained have been used by HCC in its own business planning and service delivery reviews with a number of aspects expected to be mainstreamed into HCC activities in the future – funding permitting. For example, partly as a result of the GI project,

HCC is considering what information and intelligence the supply chain will make use of and how to get that information to them.

The GI project also identified that there is a continual need to be able to relate the intelligence and information available to the achievement of real, direct benefits for target groups in the supply chain including breeders. Moreover, the GI project also illustrated the need to incentivise farmers to collect and share data on performance so that it can be analysed and shared for wider industry benefits.

More widely, there is an opportunity to further improve uptake of performance recording, particularly in hill breeds through the development of new projects. Any further investments in future GI-type projects are likely to focus on delivering further productivity improvements, alongside an emphasis on reducing the carbon footprint of red meat, therefore contributing to the wider public good policy aims with regard to sustainability and to the development of a more sustainable supply chain for Welsh Red meats.

6. Lessons learnt

The GI project is regarded by HCC, levy payers in the red meat industry and some important stakeholders as a success in that it was focused and time limited, with an appropriate balance of awareness raising and implementation support. However, the initial targets were conservative and may have affected the overall success of the project, until these could be revised and the project extended in scope in its latter years.

The initial conservative approach was partly a result of the pre-contractual discussions with the Welsh Government, on the one hand, and other bodies and stakeholders at the project development stage on the other.

The main challenge for delivery identified at the outset of the project was gaining engagement and participation from the primary producer community.

The response that was developed at the planning stage and implemented successfully throughout was to target the breeder community in Wales. In addition, using the incentive provided by the access to expert support and funding as a tool for engagement, worked well in encouraging breeders to at least ‘have a go’. The project’s early success in gaining breeder uptake of the projects supports secured greater support for the project from levy payers in the course of the project.

It also needs to be kept in mind that changes to livestock systems take years for benefits to be fully realised. In order to introduce a lasting change to culture and behaviour, ongoing work is needed to stimulate, motivate, encourage and support breeders through these types of changes. The GI project provided a small, but successful step in that process.

Support for Primary Producer Product and Business Development

This case study considers the three SCES projects that provided generic product and business development support to primary producers:

- Cywain delivered by Menter a Busnes;
- Welsh Food: Added Value (WFAV) delivered by the Coleg Menai Food Technology Centre; and
- Improving and Adding Value in the Welsh Supply Chain (IAV) delivered by Ceredigion County Council's Food Centre Wales in Horeb.

1. Project development and rationale

All three projects provided a capacity building service and offered facilitation, mentoring and expert advice to individual businesses. All three projects aimed to increase the level of innovation along the food supply chain in Wales in order to add value to Welsh produce.

Drawing on market intelligence and research, company visits, training and other resources, Cywain focused on the business perspective of such activities. Mentoring is at the core of the project, supporting primary producers in understanding a market opportunity and considering the viability of any value added products in the market. As set out in the final evaluation report, its approach was *'market focused and client driven.'*

Delivered out of the Welsh food technology centres in Llangefni and Horeb, WFAV and IAV's services offered technical product development services and support, the use of food manufacturing equipment and facilities, together with relevant training. WFAV and IAV's services ranged from applied and advanced food research to process development, quality control & assurance systems to labelling information, packaging advice and sourcing.

The three project sponsors had identified a specific gap in relation to the support available for primary producers wishing to engage in post-farm gate product development and innovation. This target group was not catered for by

other RDP provision; Farming Connect focused purely on agricultural, pre-farm gate issues while Agrisgôp groups only stretched to identifying potential opportunities; the core Welsh Government food and drink business supports did not cater for micro enterprises and were not providing the technical product development support required to launch new food and drink products; and the regional LEADER food projects offered no pan-Wales provision. As one project manager put it, *'there was nothing to take ideas forward in the food and drink sector and support producers to do that.'*

For most primary producers starting to add value to their produce is, to all intents and purposes, a start-up venture. The project sponsors saw that the existing support infrastructure was not strong enough to make this a viable option for farmers. The projects therefore offered different facets of the support necessary to allow micro-enterprises to develop an idea for a food product into a viable business proposition. Mentoring and capacity-building support of this kind was seen as a vital ingredient in enabling primary producers to up their game and bring new products to market.

2. Collaboration and engagement

Encouraging and facilitating collaboration and engagement between primary producers has proved challenging for all three projects. The experience of the projects has highlighted that collaboration needs to be based on a clear business proposition and a commercial benefit to all collaborators. Ultimately, supporting primary producers in developing the habits necessary to establish and sustain added value products in the market is about identifying opportunities with and for them and enabling them to take advantage of such opportunities. As the Cywain project manager put it, 'w*e're demand-led, we're not about going out there and saying to producers that collaboration is a good thing. It doesn't always work; we work on business propositions and it has to be viable.'* Even where a group of primary producers has come together around a potential market opportunity, once a detailed analysis of costs, margins and business planning implications has been completed,

collaboration may not necessarily be the best way of putting a new venture into practice. Supporting a group of farmers to arrive at this conclusion before they invest heavily in a collaborative venture can be a positive outcome.

Faced with this difficulty of engaging primary producers in collaborative initiatives and in line with the pilot nature of all SCES projects, the case study projects therefore experimented with different approaches to stimulating and supporting collaboration. The Cywain team, for instance, proactively identified market opportunities and sought to engage primary producers in exploiting these. Cywain Bees, for instance, was developed in response to high demand for local honey - identified as part of a LEADER project - that wasn't met by reliable supply with work now being delivered to build the necessary capacity and skills through the Welsh bee keeper Associations. Similarly, having worked with many micro-breweries, the fact that hops are not being grown in Wales at any scale was identified as a key bottleneck and prompted a study looking into the viability of growing a Welsh hops brand.

Cywain also adopted a role of actively brokering collaboration between clients. Examples include introducing new producers to Farm Shops or Delis through Meet the Buyer events, matching a country park looking for ways to market its deer shoot with a start-up pig farmer and butchery that on its own didn't have enough volume to make the business work and now runs a growing meat processing unit servicing other meat producers, or teaming up a farmer who was growing wheat with a local bakery to develop a Welsh digestive biscuit.

In line with the SCES objectives around cooperation, WFAW had set itself ambitious targets for the number of *'collaborative initiatives'* to be supported (alongside targets relating to support for individual primary producers). In order to deliver on these, WFAW trialled an approach of undertaking upfront product development themselves in response to primary producer enquiries (e.g. a glut of apples, limited market value in liquid milk). Such product

innovations were then showcased to processors who, it was hoped, would then source ingredients locally. While this approach was not a resounding success, as uptake has remained limited, it has generated useful learning about the detailed dynamics of how the food centre can adopt a more proactive role in stimulating innovation and cooperation.

The three projects also applied the SCES focus on cooperation to the wider support infrastructure. They ensured that appropriate linkages were created to offer a complete package of support to primary producers wishing to add value to their produce.

Co-hosted by the same organisation, Cywain for instance, levered close links to Agrisgộp to offer business development support to existing groups of farmers and transferred and adapted approaches from the Menter a Busnes delivered Trade Development Programme to the requirements of small primary producers.

WFAW was able to nurture strong relationships with LEADER groups and other area-based projects and support providers (e.g. Menter Mon or Cadwyn Clwyd) and used this as a platform to feed specific technical expertise and support into existing collaborative initiatives. IAV worked closely with relevant agencies such as Environmental Health or the Food Standards Agency in shaping IAV's technical support offer.

Complementarities between the three projects were also exploited. The food centres' technical product development input complemented the business development resource available through Cywain. Similarly, the two food centres were able to gain a clearer picture about their respective competencies (e.g. Horeb focusing more explicitly on meat and dairy) and are now, jointly with the Food Industry Centre at Cardiff Metropolitan University, working towards a networked approach.

Primary producer engagement in shaping the nature of the support provided was mostly through initial consultation work (e.g. WFAW undertook an initial consultation to gain primary producer input into the development of the support package) and the feedback and insights gained through enquiries and the individual support projects themselves (e.g. through client satisfaction surveys and/or the delivery teams' own reflections on primary producers' support needs) rather than through a formal governance role for primary producers.

3. Results achieved

Feedback from the project managers and the associated evaluation reports suggests that demand for this type of support is strong with primary producers requiring confidence building and hand-holding on technical and business development aspects of value adding innovation. The three SCES projects have reached a high number of primary producers. In the last two years Cywain alone has worked with 280 producers and 24 groups considering collaboration as a way of developing their business.

While the evaluation reports for the food centre projects, WFAV and IAV, did not present data regarding the number of unique businesses that they dealt with, this is likely to be well beyond an additional 200 businesses between them. This has involved a considerable number of new ventures and start-up companies where the three case study projects have been able to hand-hold producers in the development of an idea from the original concept to a product in the market.

In terms of behaviour change and producers approaching their entire business in a different way, the case study interviewees suggested that the support provided to primary producers has the effect of making these businesses more confident and more focused on delivering to the needs of the market. This is in particular the case in relation to the technical aspects of developing new products and in terms of selecting appropriate projects rather than investing time, energy and resources where there is no proven demand.

There is also evidence that the case study projects are playing a role in strengthening the fabric of primary producer value adding activities. The Cywain project manager described, for instance, how a group of sheep farmers whose collaborative venture proved not to be viable *'are working together now looking at the efficiency of production and considering how using EID might benefit their flocks instead.'*

One WFAW beneficiary described the food centre's approach as *'very grassroots and responsive'* while adopting a *'strategic approach of building a pipeline'* of producers coming through.

Feedback from a beneficiary of the Cywain work with bee keepers suggests that the support has also been able to sow the seeds of new business ventures in the future. In this particular case, the support helped identify specific health properties in Welsh honey which triggered the idea that '*somebody should be taking control of marketing Welsh artisan honey to the world. This whole train of thought has come out of what we've done with the Cywain officer.'*

To some extent, the SCES funded projects have also been able to disseminate the results of individual support projects to wider primary producer communities. A pig farm who received Cywain support to develop a strong brand for its farm shop, for instance, presented their experience at a Pig Section seminar at the 2015 Spring Festival.

4. Implementation arrangements

One project manager suggested that the long lead in time for the SCES projects and the fact that their rationale was rooted in a different market environment meant that the measuring stick for success has changed since projects were conceived. At a time when markets were much more buoyant, there appeared to be room to support small scale product development projects and primary producers in artisan markets. As a result of the recession, the emphasis has since moved towards jobs and growth, an aspiration that the case study projects were not necessarily designed for. The WFAW project manager outlined that – in spite of the light touch monitoring for the SCES itself, '*when we were starting the journey the focus was on start-ups, but we're being measured now, in 2015, on economic impact – this would be more significant with larger food processing companies.' ,*

Cywain and WFAW originally focused on working only with beneficiaries with a holding number – as a marker for small primary producers - other micro enterprise producers and food processors did not form part of the target group. This requirement was subsequently loosened allowing the case study projects to support vertical cooperation with food processors, for instance teaming up a farmer with a processor where he/she had an idea, but didn't have the ability to process his/her own products. As the Cywain project manager described it, *'our remit is about facilitating access to new markets, it's very difficult if you're not working with potential markets.'*

For Cywain and WFAV the size of the business and the focus on adding value to Welsh produce remained the main distinction compared to the wider WG and RDP support for agri-food businesses. IAV found it more difficult to identify demand in that segment. In order to use the SCES investment to strengthen the agri-food industry, it was therefore decided in consultation with the SCES team that the project support could be made available to any business in Welsh food supply chains. This was based on the assumption that while beneficiary businesses may not be primary producers themselves, they were likely to buy from them and this would generate an indirect benefit for primary producers.

Overall, the flexibility of the SCES approach has enabled the case study projects to hone their core offer to make sure that it aligns well with actual primary producer needs (e.g. Cywain offering test trading support to get more feedback on products at developmental stage or on pricing /first sale). It has also allowed them to introduce new concepts, to develop tailored supports for primary producers in specific sectors and to respond to emerging grassroots requirements (e.g. WFAW developing a bespoke accreditation framework for the Anglesey Farmers Market or establishing links with the emerging Slow Food movement).

At the same time, this flexibility (combined with uncertainties arising from the funding gap at the SCES half-way point before additional funds were allocated to the case study projects) has introduced a degree of overlap and duplication, both between the case study projects (e.g. Cywain having to sub-contract the food centres for their services while they were without funding) and with other support providers (e.g. clients receiving support from the food centres as part of a package of support funded from other sources).

5. Sustainability/ legacy/ impact of project

Overall, the direct support provided through the three case study projects has been of a transactional nature, so that the lasting impact and ultimate legacy of the individual interventions is hard to assess. However, the three projects collectively have demonstrated that for primary producers embarking on projects to add value to their produce for the first time, laying the foundations for collaboration is vital. This is because each individual business will need to have the capacities and processes in place to make effective collaboration possible.

Seeing themselves as making a contribution to the wider food and drink policy environment in Wales, the case study projects – to varying degrees - have maintained close relationships with the WG Food and Drink Division throughout. The projects have therefore been able to feed their experiences directly back into further policy development. Indeed, as a result of the SCES funding for the two food technology centres, WFAV and IAV, combined with the PMG Knowledge Transfer project delivered by the Food Industry Centre at Cardiff Metropolitan University, the value of the technical support for product development delivered by the three food centres has been proven and is expected to be delivered as a pan-Wales offer going forward.

The case study projects offered a laboratory in which to pilot some of the approaches that have since been put forward in the Welsh Government's Food and Drink Action Plan. Through Menter a Busnes' extensive market intelligence and the organisation's direct link into wider agri-food relationships,

the Cywain project, for instance, was able to tap into the whole range of market opportunities to match primary producers' ambitions from the test trading of products and an understanding of short supply chains to a grasp of the wider market place.

6. Lessons learnt

The evidence suggests that there is a danger of primary producers becoming dependent on the generic support around business and product development. The pivotal role of the technical support for product development on offer from WFAV and IAV in particular meant that producers often rely on the food centre facilities for a wide range of training, testing and development needs. Nevertheless, there remains a clear public good rationale to make an investment in equipping primary producers to respond to competitive pressures in their markets.

The three case study projects' experience has clearly demonstrated that advocating primary producer collaboration around innovation for its own sake doesn't work. Any support intervention needs to be guided by a particular market proposition. The specific benefits of delivering that proposition in collaboration with others needs to be considered carefully with detailed attention to the associated costs and benefits.

However, with this transversal nature of the support offered by the three case study projects in mind, it would have been of vital importance that the specific approach to working with primary producers is continually refreshed and aligned with the wider implementation environment. A degree of overlap and duplication with other RDP and Welsh Government core provision has caused issues for all three projects. A clearer proposition of the particular aspects being piloted would have been important in order to be able to make a more robust assessment of the success or otherwise of a specific approach. Going forward close links with Welsh Government core provision and other RDP

projects is therefore vital in avoiding duplication and securing maximum impact from similar interventions.