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Small scale textile production in Wales:
Exploring issues of sustainability

Introduction
This paper reports on doctoral research that has explored the role of design in sustainable development, the research question being 'What is the role of design in sustainable development?' The context in which the research has been conducted is outlined, followed by an overview and observations on key aspects of the methodology adopted. The understanding of both the central concepts, design and sustainable development is then discussed followed by a brief overview of the principal findings from the thesis. The discussion then uses material drawn from the research to explore key questions around themes relevant to the Making Futures context.

Context for the research
The research was undertaken in the context of textile production in Wales, which was selected as the location of the research for several reasons:
Firstly, the Welsh Assembly Government has a constitutional legal remit to sustainable development (Welsh Assembly Government, 2009, p. 8). Wales is one of only very few governments in the world with this formal governmental remit to sustainable development, the others that have been identified being Estonia and Tasmania.

Secondly, the geographical proximity of Wales enabled fieldwork and data collection to be undertaken with relative ease; this was also facilitated by my links in Wales, principally through working with two research groups, the Network of Development Researchers and The Cardiff Group.

Lastly, I am a Welsh speaker; although not essential, this has been an advantage when approaching other Welsh speakers and has given insights into aspects of the culture possibly denied to an English speaker.

The Welsh commitment to sustainable development

Wales has had devolved government from Westminster since 1999 as a result of the 1997 referendum. It is a legal duty of the devolved government to promote a sustainable development agenda as noted in the 2009 policy document, *One Wales: One Planet. The Sustainable Development Scheme of the Welsh Assembly Government*:

> Our duty
>
> In Wales, the Welsh Assembly Government is proud that sustainable development is a core principle within its founding statute. We were, and indeed remain, one of the few administrations in the world to have a distinctive statutory duty in relation to sustainable development. This duty, under the Government of Wales Act 2006 (Section 79), requires Welsh Ministers to make a scheme setting out how they propose, in the exercise of their functions, to promote sustainable development (Welsh Assembly Government, 2009, p. 8).

The Welsh Government has taken a deliberate decision to set itself up as a world leader and exemplar in this duty to sustainable development and was seen, therefore, to be an appropriate location for the research.

Welsh textile production

Textile production has been a part of Welsh life since the Middle Ages, contributing to the Welsh economy and forming a part of the culture and natural environment of Wales. About 10,000 people are estimated to work in the Welsh textile industries, but this figure is inflated by the inclusion of aspects of textile activity such as leather production, dry cleaning and training, which were not the focus of this study. Products of the Welsh textile industry include garments, woollen goods such as blankets and bedcovers, knitwear, household textiles and accessories from small scale and individual makers. Contemporary textiles are produced in Wales by small scale manufacturers, with craftspeople estimated to form one in six of the workforce (Skillfast-UK, 2005).

For the purpose of this research, textile production was taken to be the production of fabric or the manufacture of garments or household textiles using wool or other natural fibres, for instance mohair or linen, and the techniques of weaving or knitting. These criteria were selected as the Welsh textile industry historically manufactured woven or knitted wool products, the woven blankets known as Welsh 'tapestry' being the best known, see Figure 1.

Figure 1. Welsh 'tapestry' bedspreads, two colourways

Methodology

This is a relatively brief discussion of some aspects of the methodology used in the research. I include it here due to its importance to the direction that the research took and to the understandings that emerged during its course, the qualitative approach being relevant to both the methodology and the changing understandings of sustainable development.

A qualitative paradigm

The qualitative approach was judged to be appropriate for the study of design and sustainable development, both being social and cultural in nature. With the exception of some numerical data, for instance the indicators of sustainable development, the features examined, such as the quality of design or the social aspects of a producer's activity, did not lend themselves to quantification particularly at the small scale level of the individual producers. However, by subjecting them to a highly structured and transparent research process it was felt that clear and meaningful judgements were able to be made.

The eight characteristics outlined by Rossman and Rallis best describe the position taken in this study, each are stated (1998, pp. 7-11) and then related to this research:

> First, qualitative researchers are oriented toward the **natural world** … (Rossman & Rallis, 1998, p. 7 author's bold).

The research was in the '**natural world**', the location of the research being undertaken in an 'ordinary' setting, not structured or manipulated by the researcher. The collection of data was undertaken in the 'natural world', that is, in the workplaces of the selected respondents.

> Second, qualitative researchers work in the field, face-to-face with real people. They try to understand how people make sense of their worlds through **multiple methods that are interactive and humanistic**: talking, looking, listening, and reading (Rossman & Rallis, 1998, p. 8 author's bold).

Data collection was undertaken in the field, meeting people, visiting their workshops, factories and shops as well as exhibitions and museums. '**Multiple methods that are interactive and humanistic**' were used including interviewing, observing and reading documents of all sorts.

> Third, qualitative researchers value the messiness of the lived world; they make a sustained **focus on context** integral to their work … (Rossman & Rallis, 1998, p. 8 author's bold).

The researcher made a '**focus on context**' in all aspects of the study. The 'messiness of the lived world' was a challenge throughout the work as identifying aspects of design activity and sustainable development was not always easy or simple.

> A fourth characteristic of qualitative research, then, is that the researcher **systematically reflects** on how she affects the ongoing flow of everyday life (Rossman & Rallis, 1998, pp. 8-9 author's bold).

Systematic reflection took place throughout the study, the researcher aiming to be both reflexive and reflective, responding to, and reflecting on, the data as they were collected and analysed, while also acknowledging any effect of her interaction on the respondent.

> The fifth feature of qualitative research, then, is an **exquisite sensitivity to personal biography**. Unlike the allegedly objective social scientist, the qualitative researcher values his unique perspective as a source of understanding rather than something to be cleansed from the study (Rossman & Rallis, 1998, p. 9 author's bold).

The researcher's background in textile manufacture and design, gave a link with respondents. The 'personal biography' of the researcher was a crucial input to the content and conduct of the research and informed it throughout.

> No formal hypotheses are cast prior to the study … This conceptual framework … can be … changed, modified and refined once in the field as other … questions are discovered… This sixth element is the **emergent nature** of qualitative research (Rossman & Rallis, 1998, pp. 9-10 author's bold).

No formal hypotheses were constructed before the study began. The '**emergent nature**' of qualitative research was acknowledged as concepts emerged from the study, linking to the grounded approach to theory building also employed.

> We argue that all inquiry proceeds through a complex nonlinear process of induction, deduction, inspiration, and just plain old hard thinking. This seventh feature of qualitative research, then, is a reliance on **sophisticated reasoning that is multi-faceted and iterative**, moving back and forth between the parts and the whole (Rossman & Rallis, 1998, p. 10 author's bold).

This process of '**sophisticated reasoning that is multi-faceted and iterative**' has taken place throughout the study, to build and connect all the constituent parts. 'Plain old hard thinking' has been of particular value.
The eighth point states:

> Finally, qualitative research is **fundamentally interpretive**. … qualitative research focuses on description, analysis, and interpretation (Rossman & Rallis, 1998, p. 10 author's bold).

This point particularly resonates with the approach taken, as all information and data collected were subject to my interpretation. The interpretivist tool for collecting data into the 'thick description' was found particularly useful as a means of organising the data uniformly for each case study and its use encouraged the collection of rich data. The qualitative approach was found to be a suitable one for the research topic, although this had not been obvious at the outset.

The selection of a case study approach

Although other approaches were considered, the case study approach was selected as appropriate for investigating the central relationship in this research, i.e. that between design and sustainable development. The selection was taken in tandem with the exploration of the Welsh textile industry and the construction of a database of all Welsh textile producers, which included approximately 200 producers.
In a classic paper, Langrish (1993) argues that there are two research traditions, that of physics and that of biology, and outlines the essence of the traditions and the differences between them. He goes on to suggest that the biological approach is suitable for researching particular subjects including design:

> Perhaps subjects like organizational change, new product development, fashion, history, etc are best studied by a biological approach which is valid in its own right rather than as a precursor to 'real research' (1993, pp. 349-360).

This biological tradition means that the case study is a fitting way of approaching complex situations in a 'real' context and three particular strengths of it are identified:

> adding detail to previously known phenomena,
> discovering new phenomena
> refuting previously held ideas (Langrish, 1993, p. 364).

These strengths were judged to justify a case study approach to the research along with other writers' opinions on case study method and its application (Denscombe, 2007; Yin, 2003).

Key concepts

I now discuss the concepts central to this research, design and sustainable development. Following a consideration of their definition I explain how differing understandings of them emerged during the research and then go on to use these understandings as a basis for a consideration of the findings.

The understanding of design

In the context of this research, design was identified as being a process of decision making about the form of goods undertaken prior to manufacture; it is executed by anyone who plans to produce products or goods of any type. These become part of human lives as Eva Zeisel, who has spent a lifetime designing ceramics and glass, says;

> Whether we make things or they just happen, whether we grow them or form them, things speak to us… They tell is where we are… They talk to us… They cheer us or shock us… They fit in or clash with our surroundings… They soothe and bathe a home with grace… This is the magic language of design (Zeisel, 2004, p. 14).

In *On Design: The Magic Language of Things,* Zeisel (2004) shows and illustrates what she considers as she makes design decisions. These include aesthetic and visual aspects such as variety, line, shade and shadow, surface and texture, scale, form, relationship to other objects, function, fun, relationship to the human body, influences, visible structure, geometric forms and patterns, curves, concluding with emotional aspects such as searching for beauty, and love (Zeisel, 2004). Zeisel's design philosophy includes these points:

- functional aspects of a design are paramount which implies a practical and pragmatic outlook, designing for industry and mass production.
- her design roots are in her training as a potter and in the production of ceramics and she understands the constraints of the production process.
- Eva Zeisel has a wealth of experience of designing, being born in 1906 and still active as a designer at over 100 years of age.
- She has an understanding of design principles having designed many types of goods including ceramics, glass, furniture and textiles.
- The inclusion of personal values including beauty, fun and love imply that she is not guided only by function but understands the emotions that designed artefacts can evoke.

Zeisel has been a designer all her working life and is rooted in the practicalities of designing within a production context. Design in the context of producing goods was a focus of this research and for that reason Zeisel was selected to inform the meaning and understanding of design in the research. Her inclusion of 'human factors' such as the emotions that are felt towards objects and the pleasure they can give is an important aspect of this approach to design.

During the course of the research, it became apparent that two types of design could be identified. Firstly, that undertaken by someone with a design training and qualification which could be identified as 'big D Design', (Albers, 1962; Davies-Cooper & Press, 1995; Design Wales, 2005; Zeisel, 2004). This is the type of design that is taught in universities and colleges throughout the world and practiced in design studios located in most major companies.

The second understanding of design emerged as that activity undertaken by a producer and maker of goods but without any formal design education, this being identified in this research as 'small d design'. Similar processes of decision making about the production

of goods undertaken by non designers has been called ‘silent design’ (Gorb & Dumas, 1987). Design activity by non professional designers has also been identified in Stage One of the Design Ladder, a model of design use by businesses put forward by the Danish Design Institute (Sharing Experience Europe, 2009).

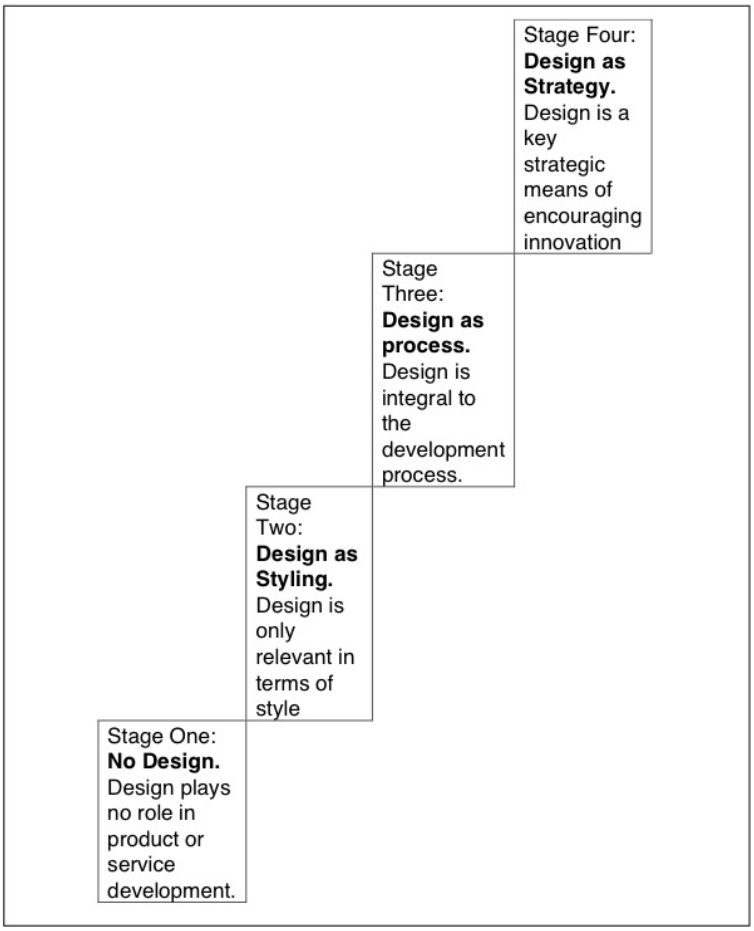

Figure 2. The Design Ladder (Sharing Experience Europe, 2009)

The identification of ‘small d design’ in this work however, suggests that producers without a design training or education are able to make informed decisions about the goods they make based on at least six factors which are:

1. Knowledge of sales, what has sold and to whom.

2. The availability of raw materials, for example, a particular fibre produced or yarn at a particular price.

3. The availability of production methods; for instance, the design capacity of looms or knitting machinery, or the technical capabilities of hand producers.

4. The demands of external clients for whom production is undertaken; in cases where production is undertaken on a commission basis, the client will stipulate the design of the goods to be made.

5. Closeness between the customer and the producer enables an articulation of customer needs, meaning that production is made with customer needs in mind.

6. Additionally, customers who buy directly from the producer are, in some cases, able to specify their design requirements. Several of the producers offer much flexibility in production, thus allowing a customised service.
Moreover, these producers continue in business using a 'small d design' input finding it adequate to guide the manufacturing process in their particular contexts, while not all the producers using 'big D Design' actually succeeded in continuing in business.

Sustainable development, definitions and understandings

Sustainable development is a highly contested term. However, in the Welsh context it is defined as follows in *One Wales: One Planet,* a policy document:

> The goal of sustainable development is to "enable all people throughout the world to satisfy their basic needs and enjoy a better quality of life without compromising the quality of life of future generations" (Welsh Assembly Government, 2009, p. 8).

This is acknowledged as a quote from the UK's shared framework for sustainable development and it incorporates the most often quoted part of the Bruntland definition, i.e.

> development that meets the needs of the present without compromising the ability of future generation to meet their own needs (World Commission on Environment and Development, 1987, p. 43),

which most writers take to be the first and definitive statement on sustainable development. These are key concepts for this research and the nature of sustainable development with its emphasis on the economic, social and environmental considered as a whole was a crucial consideration throughout. This approach is usually called the 'Three Pillar' model of sustainable development and was used in both the data gathering and data collection stages of the research. This approach to sustainable development and its achievement is usually linked to monitoring using measured indicators, there being, for example, at present 29 separate measures in the Welsh scheme for measuring progress in sustainable development (Welsh Assembly Government, 2010) covering economic activity, environmental quality and social activity.

However, during the course of the research a more holistic and less indicator driven understanding of sustainable development emerged, which is now discussed.

Some writers conceptualise sustainable development as more than moving towards fulfilling a set of indicators, including Dale (2001), Bell and Morse (2003) and the Welsh Assembly Government (Welsh Assembly Government, 2009).

In the final chapters of *Measuring Sustainability* Bell and Morse (2003, pp. 135-165) discuss the need to allow the discussion of sustainable development to include the 'human' and the 'personal' and not to limit it to the consideration of numerical indicators. They argue that it is possible to have indictors of sustainable development that are 'qualitative and implicit' (QLI) that have as much value as a numerical measurement noting that is in fact '*the form which dominates our lives'* (2003, p. 142 emphasis added). With reference to some phrases about road transport they say that these show that 'on an everyday basis we have gut feelings about what is good for sustainability' (2003, p. 142). In conclusion they make a plea for the inherently emancipatory nature of real sustainable development saying:

> Rather, for real SD (sic) to become a commonly understood value of civilized life in the 21st century, the reification of monetary value needs to be overthrown in a new vision of empowered stewardship (Bell & Morse, 2003, p. 165).

Dale (2001) having identified the move towards sustainable development as 'one of the most important human imperatives of the twenty-first century' (Dale, 2001, p. 161) goes on to say:

> 'Although this story has been framed in terms of the ecological, social, and economic imperatives, in the long run it is the personal rather than the economic imperative that most demands our attention. The personal imperative involves personal reconciliation on many levels – individual, professional, and relational. I assumed it would be naïve, however, to deny the dominance of the current socio-economic paradigm; I recognize that we need a transition strategy before moving to a framework based on this more fundamental integration (Dale, 2001, p. 166).

The above quote is relevant in the context of this research as it identifies the personal imperative as demanding attention rather than the economic. This framing of sustainable development as a process that is more than just fulfilling targets is useful as it opens the possibility of looking at, and assessing, movement towards sustainable development at the level of an individual, based on an informed assessment of qualitative indicators more relevant at that scale. This is especially relevant when looking at the actions of individual producers who may be making significant life choices in their activities.

This qualitative approach is also found in the Welsh Assembly Government's policy document on sustainable development, *One Wales: One Planet,* (2009). The 'vision' statement (Welsh Assembly Government, 2009, pp. 20-22), itself uses qualitative descriptors of how a 'sustainable Wales' could be envisioned using them to build a plausible picture of life at an unspecified point in the near future. Those parts relevant to design are shown in this extract:

> … low waste society … less emphasis on consumerism … there has been a huge growth in businesses that supply the goods and services needed to support a sustainable economy, … the production of low carbon, low waste goods… the emphasis is on durable, recycled, recyclable and re-usable goods, and goods which are low carbon. These products are used locally and exported. … there has been a huge reduction in waste production …' (Welsh Assembly Government, 2009, pp. 20-22).

Quite late in the course of the research sustainable development therefore, came to be understood in these two ways; the 'Three Pillar' model and the 'vision' model.

Both of the concepts central to this research were re-framed during its course, these re-conceptualisations of design as 'big D Design' and 'small d design' and the expanded understanding of sustainable development as the 'Three Pillar' model and the 'vision' model opening the discussion to a comparison of the relationships of these models with respect to the textile producers.

Relating design and sustainable development

This re-conceptualising of design, into 'big D Design' and 'small d design' and sustainable development into the 'Three pillar' model and the 'vision' model meant that they could be related to each other in four ways, thus:

	'big D Design'	'small d design'
Three pillar model of sustainable development	1. Relationship of 'big D Design' to Three Pillar sustainable development	2. Relationship of 'small d design' to Three Pillar sustainable development
The 'vision' model of sustainable development	3. Relationship of 'big D Design' to 'vision' model of sustainable development	4. Relationship of 'small d design' to 'vision' model of sustainable development

Table 1. Relationship between models of design and sustainable development

These relationships are now discussed including a commentary on issues such as type of production, environmental impacts and social contributions.

1. The role of 'big D Design' in Three Pillar sustainable development. Five producers with a professional or 'big D Design' input also contribute to sustainable development in all three aspects of the 'Three Pillar' model. These producers use design as identified in Stage 4 of the Danish Design Ladder, that is:

> Design as Strategy. Design is a key strategic means of encouraging innovation (Sharing Experience Europe, 2009).

These producers use their design knowledge and expertise to enable them to sell into markets that will pay the price that is necessary for manufacture in Wales, or any other high wage economy. Design plays a role in determining economic success and sustainability, the two largest producers in terms of employment, are also the oldest, having been in existence for around 100 years, both using design as a strategic tool to enable them to sell into the high end of the market.

These producers use natural materials, often expensive ones such as cashmere, which have the added benefit of having a low environmental impact (Fletcher, 2008) and an exclusive place in the market. They may use their design expertise to produce ranges for specific customers or clients, appropriate for them and exclusive to them, in limited quantity. A 'big D Design' input is used to reduce environmental impact in the selection of raw materials such as yarns and dyes while also producing exclusive and one off garments by one of the craft producers. The producers in this group often emphasise social and cultural aspects of their production in a variety of ways; they may reference traditional Welsh textiles in their products, or they may tell a story about their production and its location in either an attractive rural location or a crafts studio. In these ways, all the aspects of the 'three pillar' model of sustainable development are seen to be fulfilled with 'big D Design' playing an important role in this.

Two producers in the study were either qualified designers or employed a designer, therefore users of 'big D Design' and still went out of business. External factors were judged to be the cause of this in both cases. A 'big D design' input does not ensure that an enterprise will be sustainable in an economic sense; if out of business, no contribution

to the process of sustainable development can be made. In these cases external factors, personal and economic were more important determinants of the continuation of the enterprises than a design input. It could also be argued that a 'big D Design' input might hinder the continued existence of a producer if the cost of employing a designer was too high (Candi, 2010).

2. 'Small d design' was found to play a part in the 'three pillar' model of sustainable development, a group of four producers are identified as having no professional design input but making a contribution to sustainable development. These four producers are not qualified designers, they are however, producers and makers of various types from small mill production, to commission production and workshop and domestic production. Each employs a reasoned, informed process of deciding what to make based on knowledge of the situation they find themselves in, as discussed earlier, determined by a number of factors including the availability of manufacturing capacity, raw materials, and knowledge of their customers and markets. They are not able to move into the type of markets that the 'big D Design' users sell into, that is the very high end, expensive, exclusive, sometimes export markets. However, they do not incur associated expenses of 'big D Design' such as employing a designer or having yarn dyed to exact specifications. They are able to provide customers with the products they want by having a wide selection of goods, by knowing their market and being in close contact with customers and potential customers perhaps because as most of them are visitors to the site of production. They have a small environmental impact because of their small size and their environmental consciousness. Their contribution to social aspects of activity includes continuing traditional manufacturing and attracting visitors to remote areas as noted by McAuley and Fillis in a study of Orkney craft makers:

> Many are based in rural, and often remote, areas where they make a contribution to the tourism sector and through various multiplier effects support the infrastructure of the social environment (McAuley A & Fillis I, 2005, p. 500).

3. The role of 'big D Design' in the 'vision' model of sustainable development can be articulated as follows. The 'vision' model of sustainable development states that there will be 'less emphasis on consumerism' and this might seem to run counter to what a 'big D' design input might contribute, given that design can be linked to both fashion and advertising, intending to stimulate consumption. However, the 'big D design' input used by the producers studied in this research might be said to encourage 'cautious consumption' (Princen, Maniates, & Conca, 2002) in which selected goods are bought in limited quantities and of high quality. For instance, goods from the artisan producers and the individual craft makers whose high prices, exclusivity and low quantities of production might indicate that they fall within the concept of 'cautious consumption', with a professional design input being an integral part of this offer. Other goods in this category might include those that can be made in small quantities using fine materials, for example the hand made cashmere socks or individually made table linen. Many of the goods produced by the producers in this research may also be owned for a long time and also be reused or recycled, thus fulfilling the 'vision' of goods that are 'durable, recycled, recyclable and re-usable … produced locally' (Welsh Assembly Government, 2009, pp. 20-22).

Another aspect of the 'vision' of a sustainable Wales is that of goods being produced locally, used locally and exported (Welsh Assembly Government, 2009, p. 20). The 'big D' producers are enabled to do this, for example, as their products are used to give a local flavour to boutique hotels in Wales and also exported globally. In the provision of employment, all the users of 'big D' design could be said to be fulfilling another aspect of the vision of a sustainable Wales, that of supporting a sustainable economy, with 'big D' design contributing to their economic continuation (Design Wales, 2005; Heskett, 2009).

4.The role of ‘small d design’ in the ‘vision’ model of sustainable development. Many aspects of the goods production set out in the ‘vision’ model of a sustainable Wales such as ‘low waste society’ producing ‘durable, recycled and re-usable goods’ could be partly fulfilled by many of the producers in this research, including those making use of ‘d design’ in their production. The textile production itself is low waste and as environmentally friendly as possible as described by many of the participants who all aspired to being environmentally conscious and to minimising their environmental impact. I suggest that the move towards sustainable development is driven by personal factors such as valuing the natural environment and wishing to live in a sustainable fashion clearly illustrated by two of the ‘small d’ design users, who moved to Wales to run small holdings in rural areas. This could be conceptualised as wishing to be part of the ‘voluntary simplicity’ movement (Maniates, 2002, pp. 199-235) and has also been noted with respect to craft producers who will forgo a high standard of living for the ability to pursue their craft (Crafts Council, 2004, p. 5).

Although the ‘small d design’ producers can be classified as small or even micro-enterprises, taken as a whole they could be a significant part of a sustainable Wales and the process of sustainable development. They have tended to be ‘under the radar’ as far as the Welsh Assembly Government has been concerned, an issue that emerged from interviews with case studies. As oil prices rise and transporting goods from off shore low production locations becomes more expensive, it might become more important to have local production of some goods as suggested in the ‘vision’ model of sustainable development. As it says ‘there has been a huge growth in businesses that supply the goods … needed to support a sustainable economy’ (Welsh Assembly Government, 2009, p. 20). The producers in this research could supply some of those goods including those using ‘small d design’.

Discussion

Due to the structure of the selection of the case studies a range of production methods were included in the study. Thus factory production, mill production, craft production and fashion production were all included in a variety of locations from rural to urban. The small factory and mill production could be considered to be artisan production and comparable to the sort of production that has grown in the food sector in the last decade. These producers, whether of textiles or food, provide products with a location and a provenance which gives added value in the market. They can tell a story about the goods and the goods can be traced to their point of production. They might be considered to be ethically produced as they are made in the UK under strict laws about environmental impact and employment.

All the producers were designers, whether of the ‘D Design’ or the ‘small d design’ type. Five could be classified as ‘C’ Craftspeople (Ferris, 2011), fulfilling indicators such as membership of the UK Crafts Council Index of Selected Makers or of the Makers Guild in Wales, a selective membership organisation. They sold through their studio workshops, those in rural areas being visitor attractions, worked to commission and exhibited and sold with membership organisations. Others could be considered to be ‘small c’ craftspeople, operating without any formal training in designing or making but still making an important contribution in many respects. These include an economic impact, in providing employment and attracting visitors to very rural areas, immeasurable social impacts as a result of moving into remote areas, and beneficial environmental impacts as evidenced by the low impact manufacturing methods adopted and the concern for the environment, often their own farmland.

With the exception of two producers who went out of business during the course of the study, all could be considered to be making a ‘sustainable livelihood’ (Chambers & Conway, 1991), a concept drawn from development literature and more often used in discussions of the global rural poor. However, the idea of a sustainable livelihood being one that is sustainable in all senses of the word, economic, environmental and social,

and one that is resilient to shocks and stresses is one that is of use in this context. All the producers in the study who continued in business fulfilled the criteria for a sustainable livelihood and as such, could be argued to be useful exemplars when we look for ways of achieving sustainable ways of living. In particular, the research discovered that the rural producers are satisfied to make comparatively small economic returns, are environmentally aware and also keen to make social contributions, which again, it has to be noted are almost impossible to measure.

I have argued that the textile producers, whether categorised as 'Craftspeople' or 'craftspeople', 'Designers' or 'designers', or simply 'makers', although working at a small scale, contribute to sustainability in all its aspects within their chosen location, Wales. Some, if not all, of the cases in the research were environmentally aware in all that they did, and many had far reaching social impacts, running activities beneficial to local communities or giving time voluntarily to organisations. It appears that the agency of the individual is a strong determinant in shaping their activities possibly of more importance than the presence of a formal design input. The goods they make are of cultural and emotional significance and may enjoy a long life, partially as a result of these attributes. The activities of the producers in the study, and those similar in other locations, might be posited as a model of potential modes of production in a post industrial location within a global economy.

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