Developing Heritage Construction Skills for Regeneration

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Abstract

In the housing market renewal programme, the management and specification for the upgrading of the existing housing stock is a prime concern. Achieving quality and customer satisfaction in homes built prior to 1919, using locally sourced contractors, workforce and supply chain presents further challenges.

The NHTG Traditional Building Skills Survey (NHTG 2005) has reported that 49% of respondents found the recruitment of individuals with heritage skills "very difficult" and 73% cited "lack of skills" as the main reason for this difficulty in recruiting. This research explores the conclusions of the NHTG study in the context of the East Lancashire sub-region. The research was initially conducted with local construction contractors to gauge the extent to which heritage were still being regularly utilised, from this initial study it was apparent that the definitions of heritage skills lacked clarity and that a similar survey was needed amongst professionals in the public realm, who dictate the parameters within which heritage work is carried out. A focus group study was conducted to validate the survey outcomes and develop a practical development plan to progress the studies.

The study progresses to propose recommendations regarding professional skills needs, supply chain development and crafts needs and seeks to define options for the development of a sustainable local industry base.

Keywords: Heritage Skills, Construction, Housing Market Renewal
Introduction

Elevate East Lancashire is one of the government's nine housing market renewal pathfinders, charged with finding innovative solutions to the problem of low demand, negative equity, and housing market collapse in towns across East Lancashire. Elevate is working with six local authority partners including Blackburn with Darwen, Burnley, Hyndburn, Pendle, Rossendale and Lancashire County Council. The challenge for this partnership is to revitalise local communities through a programme of regeneration and new construction working with local people, changing their lives, aspirations and providing sustainable opportunities for employment, business, education, health and lifestyle.

The process of regenerating the townscapes of East Lancashire is extremely challenging. In the Index of Deprivation, East Lancashire has five of the thirty most deprived wards in the housing 'domain' of the UK. These conditions, along with problems of community cohesion, poor health, and low educational attainment, are both the causes and the results of a declining housing market. The Elevate HMR\(^1\) pathfinder focuses upon wards which are subject to the extremes of housing market failure and societal collapse. The East Lancashire area includes some 85,000 dwellings, which are in various levels of repair (the area has six times the national average of unfit buildings\(^2\)), and c.25% of the houses in the area are unfit for occupation, compared with a national figure of 7%. There is a similar proportion in disrepair (Elevate 2006). Of these homes 40% are in the private rented sector and 40% were built before 1919. Elevate’s commitment is such that nearly 50% of its annual capital spend budget is spent on making existing building stock suitable for habitation. As a means of addressing these issues, Elevate are progressing a programme of new housing development and repair using; best value procurement; local supply chain development to maximise the impact of the investment in regeneration on the local economy and its population; engaging local people to rebuild communities and creating long term sustainability.

Within this context, there are several key projects in the sub-region, which have involved significant focus upon traditional building skills and the rescue of communities in areas of exceptional architectural interest, these include: The town of Nelson; The Waterloo Pavilions in Blackburn and the Primary Health Care Centre at Irwell Mill in Bacup; Blackburn & Darwen, including Central Darwen, the Infirmary area and St Mary’s which are progressing with help from the Townscape Heritage Initiative. It is important to recognise the balance between housing renewal and the need to enhance the existing architectural heritage of these areas. As part of the drive to enhance the focus upon this demand, two historic environment and design specialists are now based with Elevate with financial support from CABE and English Heritage, who act as advisors working with the public and private sector regeneration teams and local communities to help deliver high quality renewal schemes

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\(^1\) Elevate East Lancashire is one of the government's nine housing market renewal pathfinders, charged with finding innovative solutions to the problem of low demand, negative equity, and housing market collapse in towns across East Lancashire. The project will last for 10 to 15 years and with funding of £94.9 million for the period 2006-2008.

\(^2\) National average = 4.2%, East Lancashire = 26.5%
recording, developing and sharing best practice including historic character, local distinctiveness, good planning and use of materials.

Elevate require that its programme of repairs to existing buildings is carried out in a sympathetic manner in keeping with the existing vernacular, but increasingly a skills gap is becoming apparent relating to design standards and the ability of the local industry to address them. This gap is reflected nationally, regionally and locally (NHTG 2005, Elevate/LSC Joint Investment Plan 2006). The situation contrasts with a dynamic training agenda for the industry as whole. Studies by Construction Skills show a growing gap between the demand and supply of trained operatives (Construction Skills 2001 & 2007). This gap is not only numerical in nature, but set in the context of its mode of delivery and appropriateness to twenty first century technologies (Gann and Senker, 1998). It is widely recognised from many studies that the reasons for this gap is not only due to provision, but also the attitudes of the industry in general (S. MacKenzie; A. R. Kilpatrick; A. Akintoye, 2000). The East Lancashire pathfinder is seeking to understand the scale of the skills gap and to determine the means by which this can be bridged and to develop a programme by which to achieve this aim. This paper presents the findings which form part of a wider study, which looks at the sub-regional issues facing the industry and its supply chain.

Methodology

The key objectives of the study focus on (a) understanding local need; (b)determining what skills sets exist and (c) identifying what needs to be done to match the local capabilities of the workforce to the identified need. The approach matches previous studies completed by Elevate, which have sought to review the impact of regeneration in the sub-region (Elevate and LSC 2005) and the leadership capabilities required to drive successful regeneration (Turner and Townsend 2005 and Elevate, RENEW and CLES 2006). The study therefore presents a three phase process which has been developed further to the cited studies, which includes (a) a survey of opinion and capability, (b) a series of interviews with experts to gauge methods of resolving the apparent issues and (c) a focus group study

As part of the first phase of the study, in an attempt to map existing heritage construction skills, Elevate conducted a telephone survey with 21 construction companies who are located across the 5 boroughs. These companies are typical of the sub region in terms of size and experience and many have some involvement with, or knowledge of the HMR pathfinder. An interview of stakeholders was conducted in the second and third phases of the research. The questionnaire was designed to capture a very basic picture of heritage skills. The questions were, for the most part closed, but where appropriate, free text answers were encouraged. These qualitative aspects provide some illustrative insights. It became apparent that further work was needed from a local authority perspective, to gain an insight from those professionals who had an involvement in heritage skills work. The survey was structured around questions concerning the definition of skills, standards of delivery, auditing

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3 Traditional Building Craft Skills – Assessing the Need, Meeting the Challenge (2005) highlights this gap, when it notes that in the North West, 49% of interviewees found recruitment “very difficult” with “lack of skills” being identified by 73% of respondents as the main reason for the difficulty in recruitment.
of standards and possible solutions to the issues raised. This engagement between the
conservators and the HMR pathfinders can help drive the regeneration of these areas in
terms of guidance on repair and refurbishment (Owen-John, 2003)

Analysis of survey results

The outcomes from the study are summarised as follows:

Figure 1. Company size

From figure 1, the most frequently reported employee number ranges were “1-5” and “11-20”,
which accounted for 57% of the sample. The company sizes are fairly typical of the
construction industry in East Lancashire, where from a total of 1870 construction companies,
only 50 have a turnover greater than £100,000 per annum and employ more than one
person. All respondents were SMEs and described themselves as either general builders or
building and joinery contractors. Only two companies confirmed that they could provide a
specialist heritage service and only one of these had a relevant subsidiary area of business
in specialist joinery. A total of 15 companies reported that 80% or more of their relevant
employees had qualifications of some form and 20 companies rated the importance of
qualification as 4/5 (refer to figure 2). This observation therefore reflects the importance
attached to a qualified workforce in general terms.
Figure 2. The perceived importance of qualifications

All respondents (21) believed that they employed someone with heritage skills (before the questionnaire revealed what these skills might be). Table 1 below presents the relevant skills sets which have been identified in the sample companies.

<table>
<thead>
<tr>
<th>Skills List</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slate roofing</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>Stonework and dressing</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>Lime mortaring and brickwork</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>Cast iron work</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>Traditional tiling</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>Make traditional doors or sash windows</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>Make</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>Fit</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td>Joinery</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>Carving</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Specialist woodwork</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Cobblestones</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>Lead work – windows</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Painting – marbling</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Plaster moulding</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>
Slate and stone were reported to be the most commonly mentioned traditional materials used in the sample surveyed, with slate and stone cited as the most common materials. When asked if specialist work was sub-contracted, the vast majority of the sample confirmed that this was the practice. Figure 3 shows that 57% of companies reported that they would subcontract specialist work due to a lack of these skills.

![Figure 3. The reasons for sub-contracting](image)

A significant majority expressed a positive interest in developing their heritage skills sets, with a similar number of companies stating that they would like to be kept aware of any new opportunities. However, 71% of companies noted that the demand for these skills has been rare in the recent past, although there is a latent demand with changes in the demand for housing and local regeneration initiatives.

**Heritage skills survey phase I – conclusions**

The key findings from the first part of the survey must relate to the fact that often the definition of heritage skills lies with the supplier i.e. if a contractor says that their company have heritage skills then it is difficult to quantify these skills and the associated competencies due to the lack of a commonly recognised skills framework (NHTG, 2006). One solution to the problem might be to adopt a model, which moves the onus away from the supplier toward the specifier. Figure 4 shows how specifiers could make decisions based on the competencies that they define. In effect, the model demonstrates the range of construction applications that may be encountered. In case 1, the work involves standard “modern” construction such as cavity brickwork using a Portland cement, for example, that can be carried out by anyone with a relevant construction skills training. In case 2, the work involves elements of more “traditional” construction, such as lime mortaring, which can be carried out by anyone with relevant modern construction skills training, but who has also acquired further specialist knowledge/skills, in case 3, the construction or repair work requires lost, obsolete
or unusual skills for which modern construction training does not give adequate or any preparation, this may refer to larger scale work such as thatching, carpentry or ironwork. Case 4 refers to work that requires a high level of scientific/technical understanding, where a practitioner is likely to come from a scientific background. In examples of this form, the work could include repair and restorative work following flooding or fire. Finally, in case 5 the work may require a high level of aesthetic appreciation/artistic talent, where a practitioner is likely to come from a fine art background, examples of this form of work may be ornate plasterwork or other forms of decoration.

Figure 4 Classifying Heritage Skills

The mismatch in demand and supply of heritage skills, which has been reported in the first phase of the study, has three possible components. These include (i). low demand from clients, specifiers and the market in general as a result of low awareness, low appreciation or a low demand due to affordability (itself a reflection of the skills gap). (ii). the gradual move towards modern construction methods in training and other educational programmes and (iii) the loss of skills through demographic change and the retirement of mature skilled practitioners.

There is a perception that heritage work is expensive and this may be partially responsible for the low demand from the specifier side. It may be cause and effect at play; because these skills are becoming increasingly scarce, such that employing those persons who hold them becomes more expensive as a consequence. This reflects the growing scarcity of trained construction operatives in the country as a whole (Construction Skills, 2001). This factor is therefore further exacerbated by the specialist nature of traditional and heritage skills. The North West Heritage Trust (NWHT), however, are of the opinion that heritage work need not be expensive or least no more so than routine construction work, this further highlights the need for education to both suppliers and clients in the heritage skills sector. In the interview
process undertaken in the phase 2 study, this perception is mentioned by respondents a number of times:

“…modern fast build requires different skills and doing work to a heritage standard is often expensive…”

Most companies still have stonework and slate roofing skills, this is because there is obviously still a demand for these, whilst other skills such as the making and fitting of traditional doors and sash windows are less evident. This may be because cheaper materials and more readily available alternatives to traditional materials became available when householders came to change door and windows. Additional issues such as maintenance and perceived life time performance are other factors. This is notably the case in respect of the use of PVCu door and window frames. Thus traditional craftsmen have made the transition in the use of more contemporary materials, but we have seen a gradual loss in the traditional skills in the process of that transition. Skills relating to slate roofing, stonework and brickwork may have survived, because they are less easily replaced and thus the client will specify a particular quality and finish; cheaper alternatives not always readily available and maintenance periods involving these skills are much less frequent in the life cycle of a building due to the inherent durability of these components, although key examples of mis-use and abuse may be attributed to the common and often the incorrect diagnosis of dampness in brickwork and masonry in general due to capillary rise (Burkinshaw and Parrett 2003). One respondent spoke of the skills gap as follows:

“…These (heritage) skills are with the 40+ generation and are dying out. Younger people don’t have the ability to work with hand tools as they only ever work with power tools…”

Modern construction skills training courses are geared not unsurprisingly toward modern construction, the emphasis is placed upon cost and speed. Currently heritage skills training provision is lacking from the vocational awards level 2 in the East Lancashire sub region and there are no examples of the use of the level 3 NVQ qualification. Some of the comments made around this issue were:

“When I worked at CITB there were courses offering these kinds of skills in the Wirral supported by the LSC. They eventually had to stop offering them due to lack of demand. Anyone interested now has to travel to Leeds.”

“There is a general building skills shortage but particularly in heritage. The new qualifications being offered are too short and too narrow and don’t expose students to heritage skills.”

“Not sure if there is a demand for heritage skills, even if there is the colleges don’t offer anything in this line.”

“The older skilled craftsmen are not passing these skills on and the college courses offered to the younger ones are too short, fragmented and biased toward modern construction skills and methods”
This viewpoint was supported by another respondent with a more optimistic perspective who said:

“Modern construction is about time and money though with the drive toward reuse and recycling it might be that these skills will be needed again.”

The situation seems to be that heritage skills are being lost and there is no formal mechanism for retaining them.

**Heritage skills survey phase II: background and methodology**

The second phase of this work concerns the investigation of local authority specifiers and other parties who commissioned work involving heritage and traditional construction skills. A much smaller sample was used, the reasons for this were; (a) the very nature of heritage skills demand from a local authority perspective limits the potential number of respondents and secondly, (b) the nature of the survey itself was different. The respondents were for the most part Townscape Heritage Initiative officers or Conservation Officers based in East Lancashire. All respondents received a copy of the initial survey and a letter requesting an interview, followed by a phone call during which, an interview date was set. The interview itself was recorded and later transcribed. This part of the survey adopted a much more qualitative approach. The respondents were asked a series of 14 questions and their answers then analysed in an attempt to illustrate the most common and emergent themes. In total, 10 respondents were interviewed. The interviews were loosely based around skills definition, standards of delivery, auditing of those standards and potential solutions.

**Phase II: Analysis**

The respondents were each asked to provide a definition of the term “heritage skills”. The range of responses included concerns relating to the definition and personal capabilities, wherein:

“I more and more feel that having that (qualified) person in-house is needed and I think it is perhaps unrealistic to ask somebody who is probably competent in managing or coordinating projects and promoting them to also necessarily have the degree of knowledge and skill on specifics on conservation specifications. As I say I, am probably able to identify them but I have no training in that.”

Elsewhere, respondents were happy to provide a descriptive classification involving masonry work, joinery and metalwork:

“Well heritage skills that we come across here in [ ], the main ones would be stone slate roofing, the use of line mortars for pointing and occasionally for building but mostly for repointing. Traditional joinery skills say for instance manufacturing sash windows and manufacturing and repairing shop fronts, traditional shop fronts, so joinery is very important and then I think the other one would be traditional metal working where railings have been
lost from front of properties, yes wrought iron work, I think they would be the most common ones”

The respondents however, also saw heritage skills as art form relating to decorative work, whether this was interior or exterior work. The study progressed to consider the role and significance of heritage skills in building refurbishment and maintenance. The responses gained questioned whether approaches were reactive to building deterioration or could be used as a proactive process of regenerating the construction industry itself. Certainly, government led regeneration could develop the demand, but the long term sustainability of the work was questioned. In addition, the time lead in to develop facilities and skills was set against the immediate nature of practical construction work. The following quotation was typical:

“...we are trying to regenerate the town centre but obviously that will bring a skills shortage with it because you can’t do nothing for years and years and expect these businesses to survive and then suddenly expect craftspeople to pour into this area and start doing the work. It is also unrealistic to say that within the 5 years of the programme that we are going to train people to do it without creating a certain infrastructure here.”

In addition, it was clear that the adoption of specifications that supported heritage skills has to be contrasted to the issues of modern methods of construction, the ability of operatives to multitask and the fact that small projects can not provide sufficient work load to support a highly specialist skill at an affordable cost.

The study questioned the standards of heritage skills in each area and how skills may be developed. It was interesting that many respondents questioned their own capability in this respect, reflecting the need to work cooperatively across sectors and departments as a first step:

“Well I think it comes right across the board, I think there is a need for perhaps workshops that local authorities offer to members, to senior officers in planning and related departments, engineering highways, landscape architecture, architects and engineers to just focus on how heritage should have a priority…”

It was clear that an awareness of existing national standards in skills was low and there was a feeling that there should be a corresponding level of specialist professionals.

“I think there should be some nationally set standards and then probably feeding into that on a regional basis…”

Many agreed that the process of development could be led by the public sector acting as a best practice client and influencing the private sector by standard and practice:

“One way to develop heritage skills is to demand the work in the first place and the way to demand that work is by not adopting the standardised approach to design and not an over-reliance on modern materials.”
When asked if such skills should be delivered to experienced workers or to new trainees, it was clear that this should be a universal offering and as such the needs of an existing workforce should be considered in any development process. This factor therefore influencing the mode of delivery and the methods of assessment through schemes such as the On Site Assessment and Training scheme (OSAT). Respondents clearly agreed that experienced mentors and life long learning would be an advantage:

“I think it would be nice if they could be offered to people starting out so it makes them more of the mainstream rather than a specialist area, I mean obviously this would be an ideal situation…meshing (heritage skills) back into the mainstream so that the perception is that “This is what we do” rather than them being seen as offshoot…a specialism”.

The study highlighted that a need for buy in and understanding was needed by the public and private sectors, wherein on one side heritage work was often neglected by property owners through ignorance rather than intent and that there had been examples of a failure to market heritage skills effectively to owners. Overall, the decline in traditional craftsmanship can be traced to owners of listed building not employing suitable professional advice on their buildings (Barker).

Whilst establishing a clear need for heritage skills to meet client objectives and the outcomes of regeneration in general, respondents were questioned on the subject of work quality, work inspection and the issue of competency. It was agreed that there was a need for agreed competency standards and proof:

“Contractors should have to prove with work done in previous contracts”

“We are aware that some people are more competent than others but everybody has a different way of assessing it.”

“I assume that there are standards set by the National Building Federation(sic) but presumably not in heritage skills”

It was clear in many cases that there was a high level of confusion with regard to the awareness of the national occupation skills standards. However, it was stated that there was a need to provide clear sources of reference and directories of certified or competent contractors and suppliers to aid the process of specification and selection. In this respect, the sourcing of appropriate materials seems to almost solely revolve around stone products and again the sustainability agenda had an impact. It was acknowledged that local products were difficult to source and in contrast sourcing from abroad was cheaper, but less sustainable and thus raises issues of decision making, wherein sourcing within UK was more expensive due to BVPI. It was also noted that the use of reclaimed materials was an alternative approach, but demand from more affluent areas had led to the loss of locally salvaged materials for extremely high prices.

The responses provided raised an important agenda and in terms of gaining solutions to the issues raised. A series of possible solutions was then investigated. For example one solution could involve the sharing of best practice be seen as a method of improvement? The study showed that it was generally felt that contractors might be somewhat suspicious of
the collaborative nature of best practice clubs, the comment “there is a big thing around ownership of skills and what they are prepared to share” articulated potential objections from contractors.

All respondents were strongly of the opinion that formal training programmes had a major role to play. In order to achieve this aim, many felt that a collaborative approach integrate the small and scarce sources of funding would make the provision of heritage skills more achievable. The key question being the notion that the market would be big enough to support quite expensive investments in people and infrastructure. The development and adoption of sourcing directories and other forms of guidance was without exception supported both in terms of materials and contractors with qualified or proven heritage skills.

Focus Group Interviews

The survey results were presented to a wide range of heritage professionals including both the public and private sectors in a focus group setting to try and define some positive next steps. Both public realm and private sectors representatives agreed that education is a key priority. Furthermore, it was agreed that in order to embed a heritage skills ethos into existing supply chains, some standardisation was needed. This standardisation should not be simply limited to competencies and skills but also include reliable and sustainable sources of materials. The sustainability agenda was seen as a key driver to the survival of heritage skills with its increased emphasis on the use of local sourced natural materials.

Conclusions

Overall there is support for the introduction of a formally recognised heritage skills training programme. This programme should be made as widely available as possible and attract participants from the construction sector, local authority employees, industry professionals, and private individuals. This is particularly important when one considers that 50% of building work is refurbishment rather than new construction (Preston, 1997) and that construction skills remain in short supply within the construction industry (Preston, 2006). Increasing training opportunities as well as standards and skill sets in local authorities has been recognised at the highest level in the Heritage White Paper (O’Reilly, 2007).

The area of supply and demand is a vexed one and no real consensus is immediately obvious as how to reintegrate heritage skills back into the mainstream though there was agreement that this integration role was one in which statutory authorities had an important role to play. There was a widespread support for contemporary sourcing directories as the current provision is ad hoc or non existent.

On a practical note, Elevate is now progressing a series of actions which will focus upon developing a series of practical responses to the issues raised in the study. This action plan includes (i) to design and operate a series of one day events for professionals, these will be specifically aimed at addressing heritage skills that the professional themselves have identified as areas in which they feel they lack sufficient knowledge. In addition (ii) the need for reliable resource directories in terms of both materials and skills is evident. Elevate in partnership with CABE are currently exploring how this approach might best be achieved.
There is also a clear need for providing guidance on sourcing local materials particularly stone and slate, this guidance might take the form of a series of occasional notes on items such as reopening local quarries and highlighting training organisations such as British Waterways. Finally (iii) the issue of craft skills is being addressed through firstly the operation of demonstrator days in the local crafts Colleges and in the long term the development and implementation of level 2 and level 3 specialist construction craft units as part of the skills delivery programme with a consortium of local Colleges and linking this to a potential heritage craft learning centre.
References


C. Guthrie & A. Platten: Developing Heritage Construction Skills for Regeneration

