

# **Women in Education and Training for the Scottish Wood Chain**

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## **Summary**

The paper introduces a new project at Napier University in Edinburgh into the issues surrounding entry, progression and retention of female students for courses relating to the growing, processing and utilisation of timber for use in the built environment. Major issues surrounding the recruitment and retention of women in employment and education in the Scottish forest and timber industries are highlighted. The paper concludes by outlining some recommendations on how best to proactively tackle gender segregation in careers choice initiatives and course promotion to maximise the pool of potential future students.

## **1. Introduction**

Despite economic growth, Scotland's forest and timber industries are facing a problem in recruiting and retaining their workforce, which contributes to a low skills equilibrium and reduces productivity. To stay competitive, these industries must be able to attract able young people who will bring with them the sought after skills as well as innovative and forward-looking ideas. However, although wood chain industries can offer interesting and rewarding careers in a range of different fields and levels, young people are generally ill-informed about the opportunities that exist in a sector that is commonly incorrectly perceived to be environmentally damaging, old-fashioned and unrewarding. Despite demand for graduates from employers, education and training providers are also facing difficulty attracting applicants to their courses.

Higher and further education programmes related to civil engineering, building and forestry are among the most gender segregated courses in the UK, and the number of female students has largely remained unchanged for the last 20 years. This lack of progress is in contrast to improvements in some other traditionally male dominated sectors. As well as constraining individual choice, gender segregation constricts labour market participation and contributes to the skills deficits. In general, industries with the highest levels of 'hard-to-fill' vacancies are often also the most highly gendered (both female and male dominated).

Napier University has embarked on a new project part-funded by the European Social Fund and the Scottish Forestry Trust. The aim is to begin to address these issues, by increasing the number of young people, especially women, considering a career in the forest and timber industries, and by researching barriers to progression and retention for women already in education and employment.

## **2. Gender Segregation Within Industry and Education**

Gender segregation, an enduring feature of labour markets world-wide, can be characterised in two ways: the relative proportion of male and female workers varies by industry sector (horizontal segregation) and also by grade within sectors (vertical segregation). Forestry, construction and engineering are frequently cited as extreme examples of male dominated occupations (e.g. Brandth

and Haugen, 2000, Fielden et al., 2001, EOC, 2005), which have been slower than other highly gendered industries to respond to equalities initiatives. Scotland is no exception, but it is difficult at present to draw international comparisons because very little specific data exists. In the UK's national statistics, forestry is usually grouped with diverse 'land' activities such as hunting and farming, which face very different competitive and workforce challenges.

In 2002, women represented only 12.5% of the UK workforce for Forestry and 9.9% for Construction (Wilson et al., 2004). Historical figures (Fig. 1) seem to indicate a slight upward trend in the proportion of women employed in the 'agriculture, hunting, forestry and fishing' grouping in the last 25 years, although this may be due to changes in gender balance in agriculture rather than forestry. Construction shows very little change in the gender balance over the last 20 years. This lack of progress is in contrast to recent improvements in some other branches of engineering. No figures could be found specifically for timber engineering in the UK.

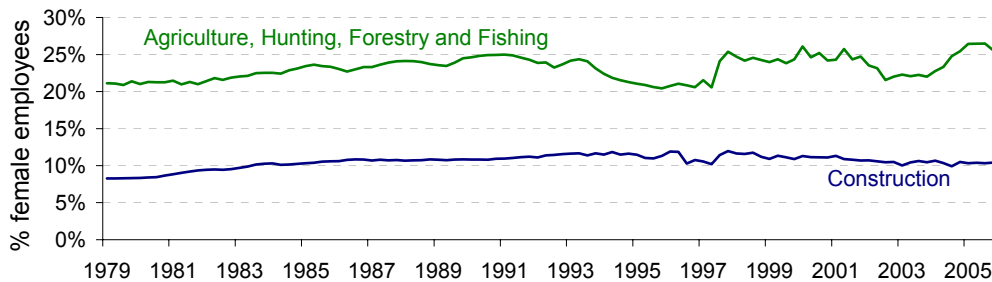


Fig 1 Percentage of female employees in the UK for 'construction' and 'agriculture, hunting, forestry and fishing', full time equivalent (Source ONS, 2006)

Within these professions women are also under represented in higher grades. The reasons for the persistence of vertical segregation by gender are complex but work-life balance factors play an important role and negative attitudes to part-time working and taking family leave remain, particularly in senior roles. People in decision making positions (both men and women) who have worked many years in a male dominated industry are themselves products of it, and are therefore often not best able to recognise barriers to entry and progression that have, by definition, not had a limiting effect on their own careers.

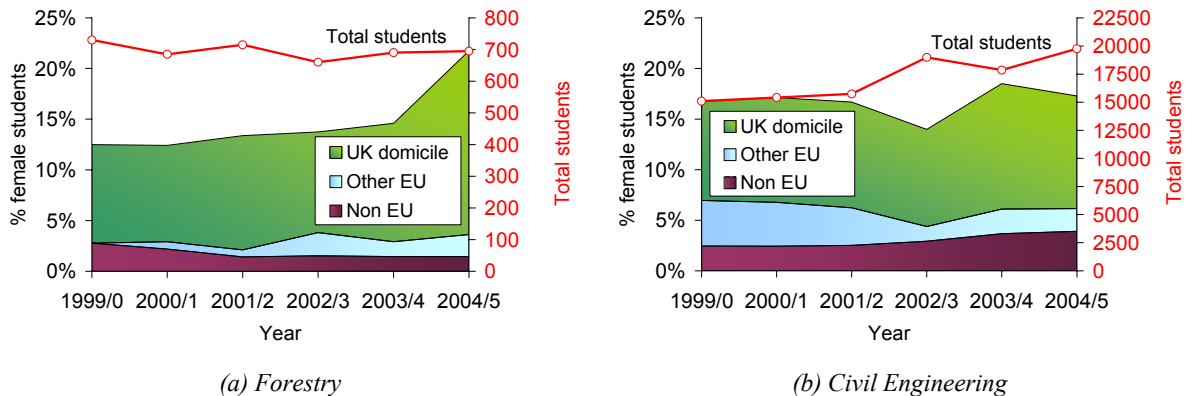


Fig 2 Undergraduate students on UK 'forestry' (a) and 'civil engineering' (b) courses Percentage of women students (filled area, left axis) broken down by domicile. Total student numbers (line, right axis) (Source HESA, 2005)

In terms of those entering higher educational institutions, in 2003/4 just 14% of ‘forestry’ students were women, although the proportion did increase in 2004/5 (Fig. 2a). This is in stark contrast to other agriculture related subjects which were better balanced. Overall, numbers of UK forestry students are falling by around 1% per year. In construction related subjects, the picture is similar. In 2004/5 only 17% of ‘civil engineering’ students were women (Fig. 2b) and ‘building’ was even more male dominated. Numbers of UK civil engineering students are rising following a substantial fall (around 25%) between 1992 and 1998, but the number of female students has not risen in proportion suggesting that publicity campaigns aimed at increasing student numbers failed to engage young women.

A recent survey of educational needs for the timber industries in Scotland indicated that there was a large difference in the level of interest in additional education and training in timber engineering between male and female respondents (fig. 3) even though both sexes had similar educational experience (fig. 4). While a small sample of employees in the industries, the findings highlight two areas for further investigation: Are education and training courses for the industry sufficiently attractive and accessible to women? And are women less likely to perceive that additional education and training would benefit their careers, and if so why?

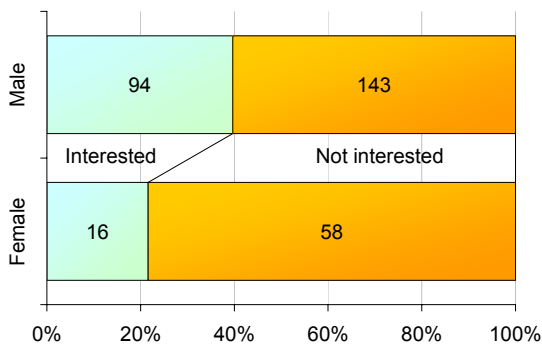


Fig 3 Proportion of respondents to survey who were interested in education in timber engineering (Ridley-Ellis and Nolte, 2006)

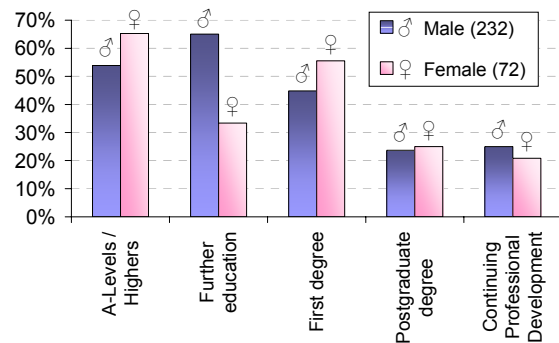


Fig 4 Educational background of respondents to survey (Ridley-Ellis and Nolte, 2006)

### 3. Addressing Gender in Recruitment Campaigns and Course Promotion

The industry in which men and women end up working is influenced by educational choices and judgments made at a young age, a process that remains persistently sex-stereotyped. Young people have considerable awareness of equalities issues and hold the view that, generally, all occupations are ‘suitable for both sexes’. However, they tend to fall into gender stereotypes which choosing the type of job and educational career they pursue (McQuaid and Bond, 2004). As well as researching barriers to women in education and employment, the project includes a careers themed public engagement component aimed at secondary school children and young people in further education as research has shown that lack of awareness about jobs and industry sectors is a strong contributor to ongoing occupational gender segregation (McQuaid and Bond, 2004).

The view that the forest and timber industries are unsuitable for women stems in part from poor understanding of the industry, in part from the existing gender imbalance, and in part from outmoded but widely held gender stereotypes about certain types of occupation. Although the gender gap in science, engineering and technology based public communication is far from solved, various strategies for ensuring the engagement of girls have been extensively researched worldwide in recent years. However, although most specialists agree on a simple set of effective precepts, these are not often put into practice. Unless gender is a core consideration many careers

programmes and training schemes will perpetuate gender based occupational segregation and, in doing so, fail to address skill shortages and ultimately, reduce productivity (EOC, 2005).

Information should be framed along side carefully selected role models of both genders in equal number, subconsciously challenging the gender stereotypes held by both girls and boys. Campaigns that actively draw attention to a severe gender imbalance in an industry risk being counter-productive. The engineering and science should be presented, not as abstract theories or truths, but in the context of application to the benefit to society and the environment. The soft skills required should be presented in a visible way in recognition of their importance. Issues of confidence should be addressed by conveying the message that there is substantially more to being a successful timber engineer or scientist than being a ‘boffin’. By making it possible for the jobs to be seen as something done by real people with real motivations the information becomes more accessible to a wider group of people. It makes it easier for young people to imagine themselves participating in the industry and, by development, encourages them to think more about the role of forests and timber in their lives. Not only will this approach ensure that more girls are aware of opportunities in the forest and timber industries, it will make them accessible to a wider group of boys too.

#### **4. Concluding Remarks**

The bulk of the UK’s forest and timber industries are based in Scotland where they constitute a strategic sector, and are particularly important for rural economies. Forty seven percent of the Scottish workforce is female and the vast majority of growth in employment in the past 20 years has come from the increase in the proportion of women becoming economically active, though their talents are presently underutilised. Scotland’s working age population is declining so employers have no choice but to work harder to attract and retain the best staff, whatever their gender. Similar forces are at work for educational institutions; with an aging population and increased competition, recruiting from one sex is simply unsustainable. However, this is often not considered proactively in careers promotion and course advertising and provision.

The project is supported by the European Social Fund under Priority 5 “Addressing Gender Imbalance” which provides 45% of the total budget. The other 55% is provided as cash and in-kind contribution of time from Napier University and partnering organisations including the Scottish Forestry Trust. Sponsorship from Finnforest UK permitted participation in the World Conference on Timber Engineering. More information about the project is available at <http://cte.napier.ac.uk>

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