

# Women in Trades

Discussion Paper

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## EXECUTIVE SUMMARY

Weak representation of women in skilled trades and other non-traditional occupations has been a long-standing issue both from the perspective of social equity and underutilisation of the female pool of labour. The key objective of this discussion paper is to learn about initiatives and research that have been undertaken with an aim of increasing participation of women in skilled trades training and employment, both in Canada and internationally. The paper also provides an up-to-date statistical profile of women in skilled trades, with a focus on women in British Columbia. An analysis of barriers that women face in training and work environments was also carried out, with particular attention to barriers faced by women from specific socio-economic backgrounds.

The research was based on a comprehensive review of Canadian and international literature and interviews and email correspondence with six key informants. Barriers and initiatives across a range of education, training and employment practices were assessed. The key conclusions outlined below are based on the author's interpretation of findings.

*Occupational segregation persists in British Columbia, with a majority of women being concentrated in lower-skill jobs in administration, sales and services.* Women are particularly under-represented in skilled trades, comprising only 6.7% of the workforce in the broad occupational category of trades, transport and equipment operations.

*Barriers to participation of women in skilled trades are entrenched across a range of educational and labour market institutions.* Through families, schools and workplaces, men and women are conditioned to develop ideas of socially acceptable gender-based occupations. As a result, exposure of women to skilled trades careers is low and they encounter multiple barriers in training and employment. Women from several specific socio-economic backgrounds and ethnic groups face additional barriers, on top of the ones experienced by the general female population.

*Educational, recruitment and retention issues need to be addressed simultaneously through a long-term approach.* Increasing the representation of women in skilled trades employment requires that a range of barriers across the training and employment spectrum is addressed. Focusing on the supply side, i.e. training more women for skilled trades occupations, is not going to change by itself any discriminatory workplace practices that lead to attrition of trained women from employment. At the same time, employers are not likely to bother changing their workplace practices unless there are work-ready women out there who they can recruit. A majority of programs implemented to date have focused on training women, while initiatives aimed at helping employers restructure workplaces seem to have been relatively scarce.

*A broad-based partnership of all main stakeholders is key to success.* Practices and attitudes need to evolve across a number of educational and labour market institutions. A partnership approach between schools, training institutions, NGOs, employers, unions and government agencies is crucial to ensuring success on all fronts. Individual change agents cannot achieve the desired outcome in isolation from other key stakeholders. None of them has the full array of resources required to enact a comprehensive change across the entire system. Some of them, such as women's NGOs, are better positioned to provide thought leadership and tools for change, while some others, such as employers or government, have power to promote change or provide financial support. Given that the barriers are deeply ingrained across various institutions, change will not happen overnight and a sustained, long-term joint effort is required.

*Leadership commitment at the political and industry level ensures integration of gender equality considerations across the system and across different institutions.* Endorsement by the top level of leadership increases the visibility of gender equality issues in public and policy debates, broadens funding possibilities and makes implementation of concrete actions more likely. Leadership support is a crucial first step towards enacting change, but the support for initiatives needs to be secured also at the grassroots level if the initiatives are to be implemented successfully.

*Diversifying the sources of funding ensures the long-term survival of programs.* In the absence of any significant financial assistance from government budgets for programs addressing the under-representation of women in skilled trades, programs need to secure funding from various sources. The risk of program discontinuation is reduced if the donor base is well diversified. In the case of training programs, the cooperation between NGOs and colleges seems to be a particularly stable model for delivering training.

*Training for women needs to include both technical and non-technical education.* Pre-apprenticeship training activities need to equip women with outstanding hands-on and theoretical technical skills, as these are key to gaining credibility in the workplace. Non-technical training in work ethic and dealing with workplace culture is also central to the success of female graduates in the workplace.

*The delivery of training should be more flexible to cater for the needs of diverse groups of women and men.* More flexible models of delivering training are necessary to better accommodate family commitments, especially in the case of single parents or the needs of learners who are based in remote communities. Providing financial support during training is important to support learners from low-income backgrounds or those who otherwise could not afford to relocate to complete the training.

*Attitudes of a wide range of stakeholders who influence women's awareness of different career paths and their career choices need to be changed.* The idea of skilled trades as a career option suitable for women needs to be accepted by families, educators, career advisors and employers in order to encourage more women to consider careers in the trades.

*A solid business case for increasing the representation of women in the workforce needs to be marketed to employers.* A positive impact on profits is the single most important driver for employers to instigate any organisational change. Getting them to invest time and money to attract and retain women will primarily depend on whether they see it as a rational business decision.

*Initiatives aimed at employers need to focus on influencing both their recruitment methods and the workplace culture and practices that cause attrition of women, taking into account heterogeneity among employers.* The activities that help employers identify issues and work through them typically include toolkits, workshops and technical assistance. However, there is no one-size-fits-all recipe and the initiatives should be tailored to different types of employers. Depending on their size, employers have different resources at their disposal to implement change.

*Continuing gender-sensitive research is required to support policy directions and provide insights for improving the existing initiatives.* Research could be strengthened in several areas, including: collection of more robust gender disaggregated data on participation of women in skilled trades

training; clearer understanding of incentives and motivations among employers to make their human resources practices more welcoming to women, including the effective implementation strategies; systematic evaluation of programs to define appropriate success measures, demonstrate success and identify effective and less effective practices; promotion of knowledge and best practice sharing among all stakeholders involved in delivering programs; and closer identification of barriers faced by women from specific socio-economic backgrounds and potential solutions to address them.

# 1. INTRODUCTION

Over the past decades women have made significant inroads into formerly male-dominated professions such as law or medicine. This progress has not been matched in some other traditionally male fields, including skilled trades. However, the debates around gender equality in the workplace mainly tend to focus on occupations that require university-level education. Typically, women who are involved in high-profile roles in politics, science and business are upheld as role models and symbols of changing gender relations at work. Similarly, under-representation of women in occupations related to science, research, engineering and technology has been a subject of policy and public debates for some time. Yet, occupational segregation in skilled trades has had a relatively much lower profile.

A broad definition of skilled trades includes both trades related to industry and personal services. Women are over-represented in trades occupations such as hairstyling or cooking, while they are a tiny minority in the highly skilled trades that are dominated by men. The apparent occupational segregation is a significant policy issue both from the perspective of social equity and employment:

- Women are clustered in the lower-paying trades, which typically do not award a living wage. Women are increasingly the main bread winners in the family, particularly in the case of single mothers and divorced women, and they can no longer afford to hold low-income jobs; and
- The available female pool of labour is overlooked in discussions on how to mitigate the existing and expected labour shortages. Employers are missing an opportunity to engage and retain women who are motivated and enthusiastic about working in the trades.

## 1.1 Discussion paper objectives

One of the Industry Training Authority's (ITA) goals is to increase participation of women in pre-apprenticeship and apprenticeship training in order to mitigate labour shortages in British Columbia (BC) and open up further skilled work opportunities to women. Under-representation of women in skilled trades and other non-traditional occupations has been a long-standing issue also in jurisdictions other than BC. Encouraging greater participation of women in highly skilled occupations in the trades, as opposed to their concentration into low-skilled and low-paid occupations such as child minding or hairstyling, has been a policy concern of various organisations for some time.

The key purpose of this research is to learn from other organisations in Canada and internationally about their initiatives and research aimed at increasing participation of women in occupations where they are under-represented, particularly within skilled trades.

## 1.2 Discussion paper structure

The discussion paper is structured as follows:

- A statistical demographic profile of women in skilled trades;
- Analysis of barriers to greater participation of women in skilled trades training and employment, identifying issues specific to particular demographic segments of women;

- Analysis of strategic initiatives and programs that have been undertaken to integrate and retain women in training programs and employment; and
- Conclusions and opportunities for further research.

In the context of this paper, non-traditional occupations (NTOs) are defined as occupations in which women have been historically under-represented.

### **1.3 Research methodology**

The discussion paper is based on extensive secondary research (data analysis, literature and best practice reviews, program reviews) with some additional input from six key informants. In addition to email correspondence, five of them have been interviewed over the phone and one face to face.

A rich body of literature was reviewed, drawing on research findings from Canada, United States, United Kingdom, European Union and Australia.

## 2. STATISTICAL DEMOGRAPHIC PROFILE

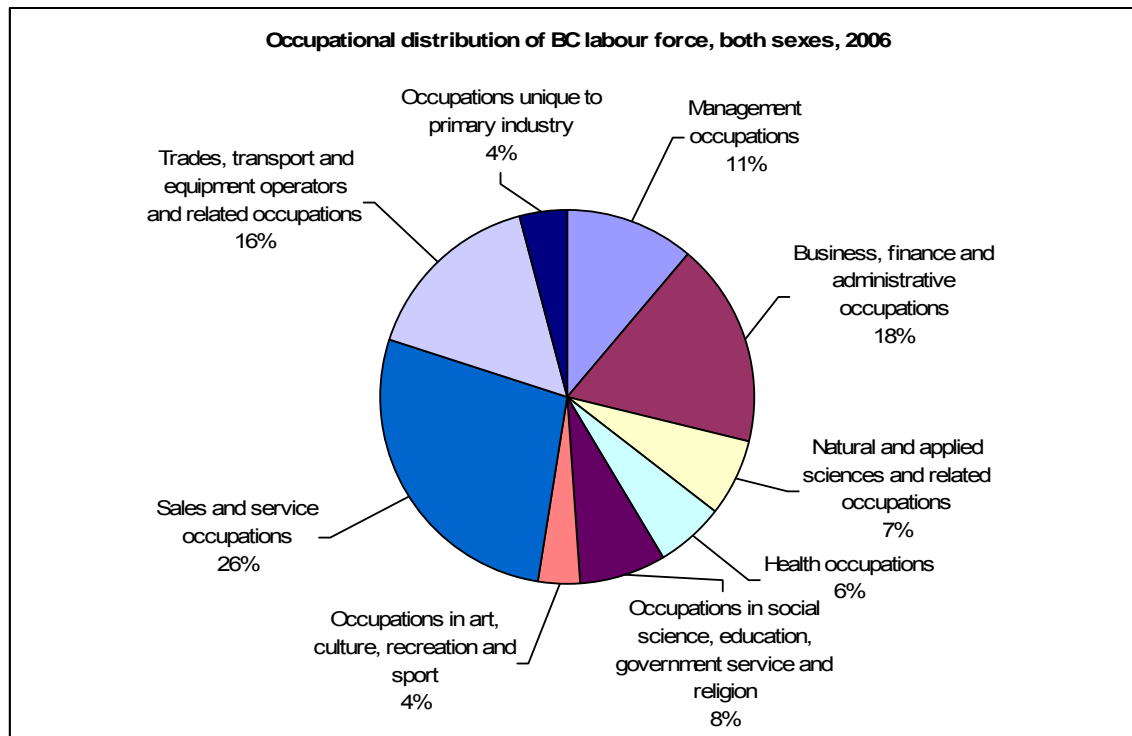
This section outlines the current picture on participation of women in skilled trades from the perspectives of both training and employment.

### 2.1 Occupational distribution of men and women in BC

The overall representation of women in the labour force in BC has increased slightly over the past decade. In 2006, women comprised nearly 49% of the labour force compared to 46% in 1996.<sup>1</sup> The segregation along gender lines persists however and occupations are still divided along traditionally 'male' and 'female' lines. Women are still largely concentrated in administrative work, teaching, nursing, social work, sales and services. At the same time, women are a minority in sciences, skilled trades and primary industries (excluding agriculture). Within a broadly defined category of skilled trades, women are over-represented in categories such as hairstyling or cooking, while their representation is very weak among NTOs such as construction work or machining.

Figure 2.1 illustrates the distribution of BC's total labour force, which includes both men and women, across broad occupational categories. It illustrates that skilled trades are a major occupational category in BC, just behind occupations related to business, finance and administration and sales and services.

Figure 2.1 Labour force distribution across major occupational categories in BC, both sexes, 2006



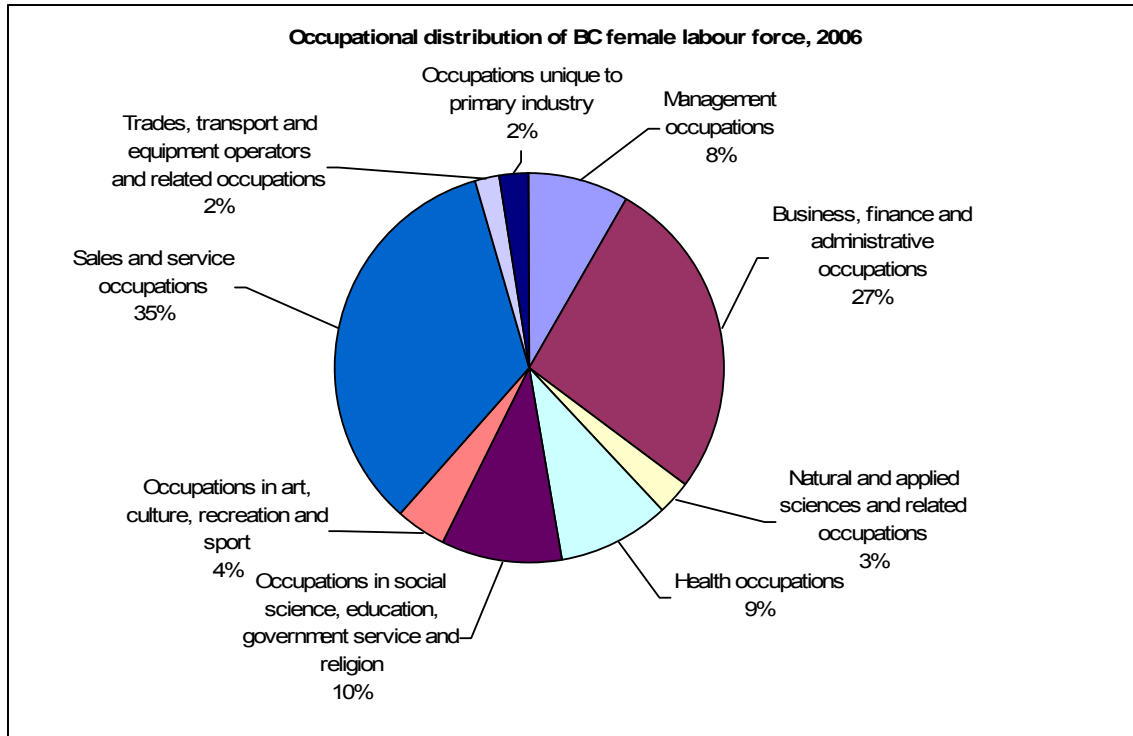
Source: 2006 Census, excluding 'occupation not applicable' category

<sup>1</sup> 1996 and 2006 Census, Statistics Canada

An analysis of gender disaggregated data for the same broad occupational categories reveals a clear divide in the type of work performed by men and women. Sex-based segregation of labour is particularly evident in skilled trades. In some other NTOs in BC, such as sciences and primary industries (excluding agriculture), women are also a minority but they still make up around 20% of the workforce. In contrast, women represent only 6.7% of all workers in occupations related to trades, transport and equipment operators.<sup>2</sup>

Figure 2.2 illustrates the occupational distribution of women in BC. BC women are disproportionately represented in occupations related to sales, services, administration and health. They employ 71% of female workers in BC as opposed to 33% of men.

Figure 2.2 Labour force distribution across main occupational categories in BC, women, 2006



Source: 2006 Census

<sup>2</sup> Occupations related to trades, transport and equipment operators do not include skilled trades where women are traditionally well represented such as hairstyling or cooking. With a possible exception of supervisory roles, this category does not include office based occupations either.

Even in the occupations where they are dominant, women are clustered at a fairly low end of the spectrum. For example, in business, finance and administration women comprise 73% of the total labour force. However, 53% of women working in this category are employed in basic clerical occupations compared to 49% of men. The top five occupations of women in BC, which when combined employ nearly a fifth of all BC women, suggest that women are concentrated at the less prestigious end of the skills and earnings scale.

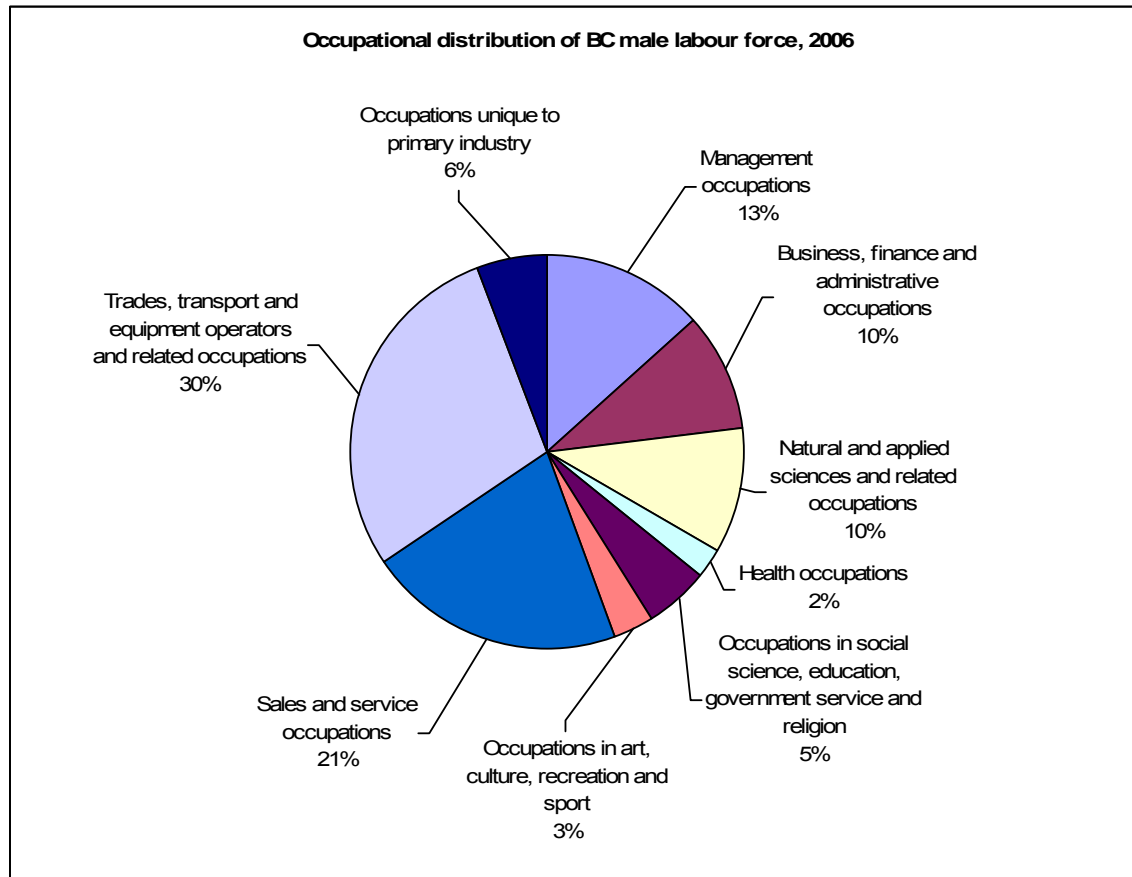
Figure 2.3 The most prevalent occupations of women in BC, 2006

Top 5 occupations in BC, women	% total female labour force
Retail salespersons and sales clerks	5.75 %
Cashiers	3.31%
General office clerks	3.08%
Food counter attendants, kitchen helpers and related occupations	3.05%
Registered nurses	2.95%

Source: 2006 Census

Figure 2.4 presents the distribution of BC men across broad occupational categories. In contrast to occupations held by women, 30% of BC men work in trades, transport and equipment operation. The other two key broad occupational categories for men in BC are sales and services, and management occupations.

Figure 2.4 Labour force distribution across main occupational categories in BC, men, 2006



Source: 2006 Census

In terms of narrower definitions of occupations, the main occupation for BC men is retail salespersons and sales clerks, the same as for BC women. However, the remaining top four occupations are generally in more skilled areas of work in contrast to the top occupations for BC women and they include three occupations from the trades, transport and equipment operation category.

Figure 2.5 The most prevalent occupations of men in BC, 2006

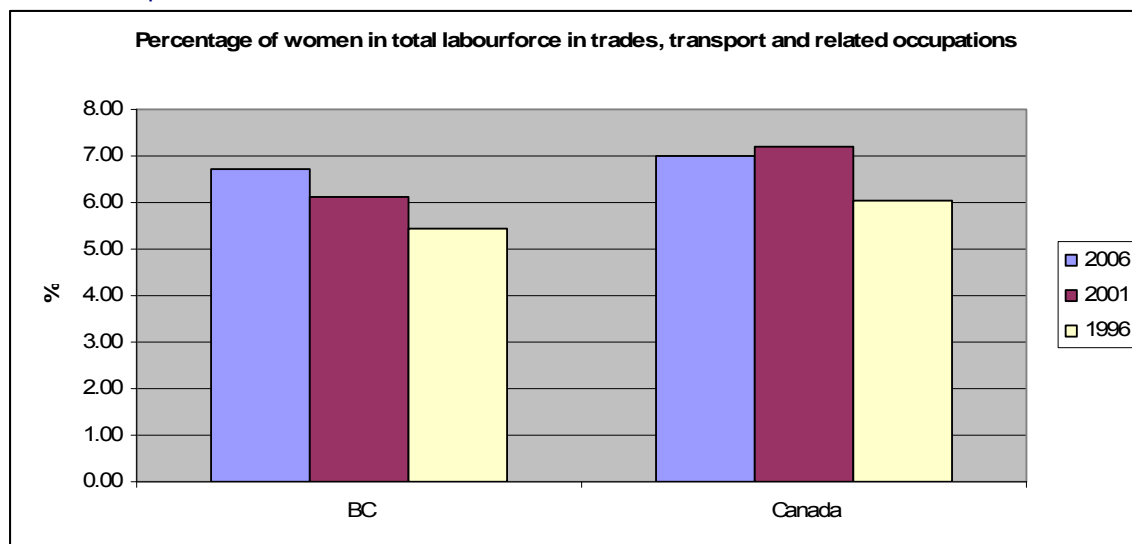
Top 5 occupations in BC, men	% total male labour force
Retail salespersons and sales clerks	3.38%
Truck drivers	3.06%
Retail trade managers	2.43%
Carpenters	2.38%
Construction trades helpers and labourers	1.91%

Source: 2006 Census

## 2.2 Occupational distribution of women in skilled trades

Although it is encouraging that an additional 6,655 women have entered non-traditional skilled trades occupations between 1996 and 2006, their representation has changed very slightly given that the number of men in skilled trades has also increased. The picture in both BC and at the national level in Canada is broadly similar. Figure 2.6 shows that the percentage of women in trades, transportation and related occupations decreased slightly at the national level between 2001 when women made up 7.2% of the total trades workforce compared to 7% in 2006. It should be noted that the trades, transport, equipment operators and related occupations category excludes the trades where women are traditionally concentrated such as cooking or hairstyling.

Figure 2.6 Representation of women in trades, transport, equipment operators and related occupations, 1996-2006



Source: 1996, 2001, 2006 Census

In BC, women represented 6.7% of the trades workforce in 2006. However, over 50% of all women in this category work as motor vehicle and transit drivers or as helpers and labourers. Their representation in occupations such as skilled construction workers, mechanics and machinists is well below 6%. Figure 2.7 reports the representation of women across main categories within trades, transport and equipment operators occupations.

Figure 2.7 Representation of women in specific trade categories, BC, 2006

Trade category	Women as % of total labour force
Trades helpers, construction and transportation labourers and related occupations	11.33%
Transportation equipment operators and related workers, excluding labourers	8.26%
Construction trades	4.22%
Stationary engineers, power station operators and electrical trades and telecommunications occupations	3.10%
Heavy equipment and crane operators, including drillers	2.88%
Machinists, metal forming, shaping and erecting occupations	2.64%
Mechanics	1.47%

Source: 2006 Census

A closer review of data prompts several further observations:

- An occupational category that has seen a substantial increase both in the numbers and representation of women is painters and decorators. In 2006, 1,470 women worked as painters and decorators in BC, a significant increase from 685 in 1996. Women represent 15% of all painters and decorators in BC in comparison to 9.5% in 1996. Women are also relatively better represented among cabinetmakers and telecommunications installations and repair workers, comprising around 6% and 11% of the workforce in these categories respectively, but the total numbers of workers in these two occupations are relatively small.<sup>3</sup>
- Women are more densely concentrated among trades helpers, construction and transportation labourers and related occupations, representing over 11% of the labour force in this category. Nearly 30% of all women who work in the trades are employed in this category, compared to only 17% of men, suggesting that women perform more menial tasks in the trades than men.
- Aboriginal and immigrant women seem to be more likely to take up trades-related occupations than the general female population in BC. Aboriginal women make up nearly 9% of all Aboriginal people working in occupations related to trade, transport and equipment operators in BC. This compares to a 6.7% representation of women in the general population. Aboriginal women comprise 7% of all women among trade, transport and equipment operators occupations even though their share among total provincial female population is lower, at around 5%.<sup>4</sup>
- According to the census of population from 2001, immigrant women in BC comprised over 28% of all women working in occupations related to trades, transport and equipment operators. In the construction industry, which is a key employer of tradespeople, immigrant women represented around 20% of all women working in this industry. Some caution might be warranted when interpreting these data. The detailed data on occupational/industry categories is not available, so it is not possible to ascertain what kind of work exactly the immigrant women are doing. It is not clear whether they are spread across more skilled occupations or whether they are concentrated under the 'helpers' category. Data from the 2006 Census suggests that first-generation immigrant women from visible minorities could

<sup>3</sup> 2006 Census, Statistics Canada

<sup>4</sup> Statistics Canada, BC Community Profile and BC Aboriginal Profile, 2006

be particularly vulnerable to clustering into lower-paying occupations. For example, in 2005 first-generation visible minorities women who worked full year, full time in BC and who hold a certificate or diploma below bachelor's degree earned a median employment income of \$28,042. At the same time, the first-generation non-visible minorities women with the same educational and employment characteristics made \$35,268.

- Clustering of men and women into specific occupations raises a question of underutilization of the existing human capital. Canada and many other countries are facing the twin challenge of ageing populations and a short supply of highly skilled workers who are vital to the sustained growth of modern economies. Canadian women have achieved a higher level of educational attainment than Canadian men over the past few decades. Figures 2.8 and 2.9 present the data on highest level of educational attainment by major age groups for population between the ages of 20 and 64. Across all age categories below 45, Canadian women have overtaken men in post-secondary education at non-university certificate, diploma or degree level. The contrast is particularly stark among the 20- to 24-year-olds and 25- to 34-year-olds. 42% of all women in the 20- to 24-year-old age group have obtained a non-university or university certificate, diploma or degree, compared to 30% of men. In the 25-34 age group, 63% of women have reached this level of education, compared to 49% of men. Given that women constitute nearly a half of the workforce and that they are well educated, it is baffling that this pool of labour has not been effectively tapped into in order to mitigate the existing and upcoming worker shortages in skilled trades.

Figure 2.8 Highest Certificate, Diploma or Degree attained in Canada by men

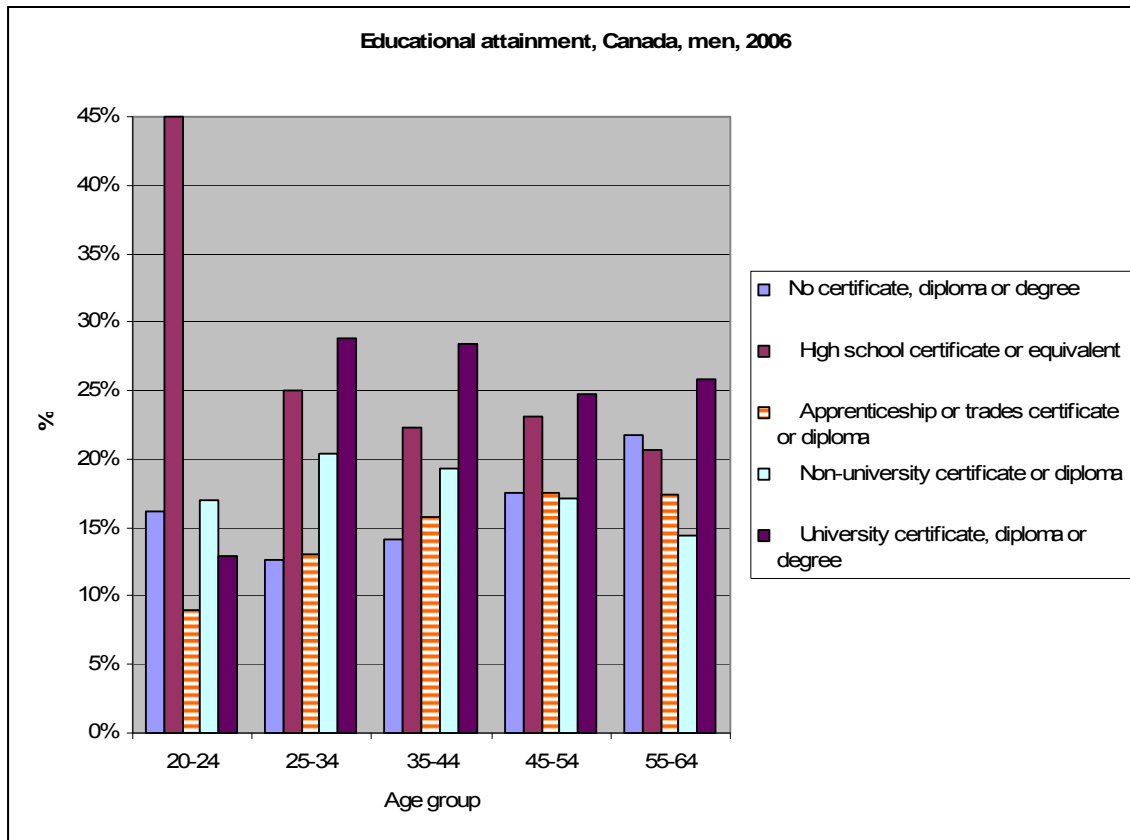
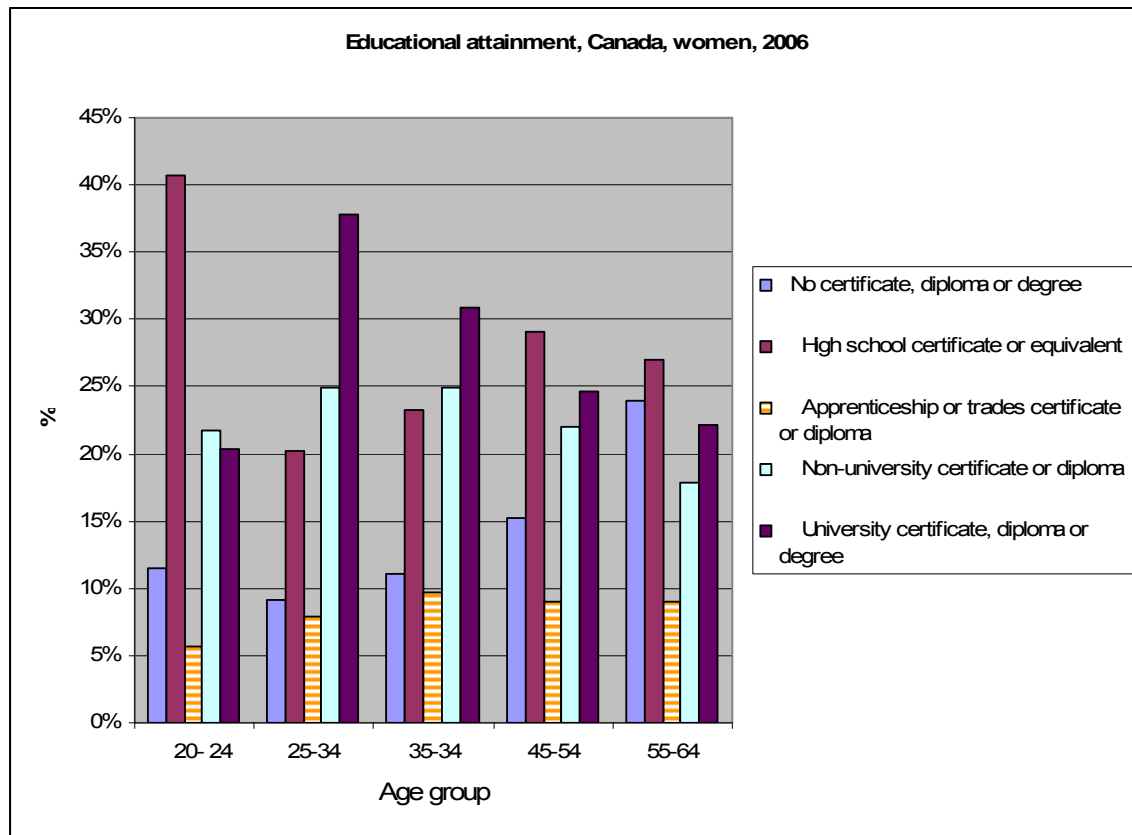


Figure 2.9 Highest Certificate, Diploma or Degree attained in Canada by women



### 2.3 Women's earnings and skilled trades

Prevalence of women in the lower skilled/lower paid jobs also brings up the issue of social equity. Gender pay gap is a long-standing issue both in Canada and internationally. In BC, median earnings of women, \$36,739 in 2005, are only around 76% of men's median earnings which stood at \$48,070 in the same year. The gender pay gap can be partly attributed to the type of work that men and women do. Concentration of women in lower skilled occupations has implications on their take-home pay. For example, median earnings of full-time female cashiers in BC, which is the second most prevalent occupation for BC women, were \$20,469 in 2005. This is significantly below the earnings of truck drivers, which is the second most prevalent occupation for men in BC. Median earnings of men employed as transportation equipment operators and related workers, a category which includes truck drivers, were \$42,089 in 2005.<sup>5</sup> Several other studies support the findings that earnings in technical trades are significantly higher than in female-dominated occupations such as those in services, clerical work or childcare.<sup>6</sup>

Some findings from Saskatchewan confirm that there is also a large gap in pay among male- and female-dominated trades. The median income for a certified female tradesperson across trades in Saskatchewan is \$29,371 as opposed to \$52,305 for a certified male tradesperson. The

<sup>5</sup> 2006 Census

<sup>6</sup> Women's Directorate, *Yukon Women in Apprenticeship and Trades*, Government of Yukon, 2005; Mastracci, Sharon *Breaking out of the Pink Collar Ghetto: Policy Solutions for Non-College Women*, 2004.

difference is partly attributed to the choice of professions since a majority of female tradespersons are concentrated in low-paid trades such as hairstyling or cooking.<sup>7</sup>

It is more discouraging that men and women seem to receive different remuneration for the same type of work. Some further research from Saskatchewan indicates that women in construction were making approximately \$4/hr less than men, which translates into around \$8,000 less in annual salary for women.<sup>8</sup> The data from BC presents a similar picture. In 2005, median earnings of women working as trades helpers, construction and transportation labourers and in related occupations in BC were \$27,532. While this is still higher than the earnings in unskilled occupational categories, such as cashiers, it is well below the pay that men get for the same kind of work. In the same year, BC men working as trades helpers, construction and transportation labourers made \$38,573.<sup>9</sup>

Data from the 2006 Census suggests that the gender pay gap is even wider in construction trades in BC, with women making \$23,739 a year compared to the male median earnings of \$36,033. It should be noted that an unusually sharp drop in women's earnings in construction trades has been recorded between 2000 and 2005, which merits further research before any reasonably robust conclusions can be drawn. In 2000, median earnings of women in construction trades stood at \$34,494 and the gap between male and female earnings was significantly smaller, just over \$4,000. Other researchers<sup>10</sup> have also found that the pay in construction is more equitable and that women can make 98.9% of what men earn. Hourly union wages are the same for both men and women, holding out a greater promise of equal pay for women at least in unionized workplaces.

Changing family structures necessitate that women make a living wage that allows them to support their families. While the number of single-parent families headed by either a male or female parent in BC has increased by over 9% between 2000 and 2005, a majority of single-parent families are headed by women. At the same time, there is a stark discrepancy in their family earnings. The median annual earnings of male lone-parent families stood at nearly \$48,000, in comparison to roughly \$30,200 median earnings of female lone-parent families.<sup>11</sup>

## 2.4 Women in apprenticeship training

Apprenticeship training is an entry point into skilled trades for many people. While it is possible to work as an apprentice and to obtain a qualification without formal training, getting a formal qualification through training gives apprentices more flexibility to find new work opportunities, including self-employment. Completing apprenticeship training is particularly important for women, given that more informal routes into the trades such as word-of-mouth recruitment are rarely accessible to them.

Ascertaining the number of women who enter and complete apprenticeship training is not straightforward, given that sex-disaggregated data on apprentices is often incomplete. A recent report by Simon Fraser University documents in detail various issues around the availability and quality of data on apprenticeship education.<sup>12</sup> In addition to the current picture on female

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<sup>7</sup> Scullen, Jennifer *Women in Male Dominated Trades, It's Still a Man's World*, the Saskatchewan Apprenticeship and Trades Certification Commission, 2008

<sup>8</sup> Ibid

<sup>9</sup> 2006 Census, Statistics Canada

<sup>10</sup> Braid, Kate and Mayer, Heather, *A Winning Ticket, Women in Trades in BC and the Yukon*, Simon Fraser University, 2007

<sup>11</sup> 2006 Census, Statistics Canada

<sup>12</sup> Braid and Mayer, op.cit

participation in apprenticeship training, the main data shortcomings are highlighted in the sections below.

#### 2.4.1 Enrolment in apprenticeship training

Data on apprentice enrolment is available from the BC's Ministry of Advanced Education and Labour Market Development (ALMD) and the ITA. However, there are significant discrepancies in the numbers of registered apprentices between the two institutions. This can be attributed to several factors. The ITA's sex-disaggregated data is largely incomplete because gender is not a mandatory field on the ITA's apprenticeship application forms. Another key reason for differences in count is that ALMD's data is a subset of ITA's data, excluding apprentices who enrol with private trainers and registered apprentices who do not enrol in training during the reference year.

Regardless of the differences in record-keeping methods, it is clear both from the Ministry of Advanced Education and the ITA figures that the numbers of female apprentices in non-traditional trades are very low. An analysis of 25 non-traditional trades programs indicates that the participation of women in 2006 was between 2.3% and 2.8%.

Both the figures from the Ministry of Advanced Education and ITA are in agreement on the most popular trades programs among female apprentices. The top five non-traditional trades programs in 2006 included automotive, carpentry, electrical, joinery and plumbing. When only non-traditional programs are examined, approximately three quarters of female apprentices are enrolled in these five programs.<sup>13</sup>

#### 2.4.2 Completion of trades training

While tracking the completions of training is important in order to understand how many men and women actually finish the training they started, the incompleteness of gender-disaggregated data preclude any in-depth analysis here. Some of the existing findings are encouraging. The 2007 National Apprenticeship Survey report for British Columbia shows that women who discontinued their program between 2002 and 2004 were more likely to have completed their program by 2007 compared to their male counterparts, 50% versus 27%.<sup>14</sup> Statistics Canada also reports that the number of women who completed apprenticeship training in non-traditional trades has risen at the national level between 1992 and 2005. While this is certainly good news, the starting base is so low that even doubling the number of female completions still means that women are hugely under-represented among apprenticeship graduates. For example, 25 women were recorded as having completed an apprenticeship in building construction trades in 1992, while the number of female completions was nearly twice that figure in 2005. This still means that only 45 women completed apprenticeship training in building trades in 2005, a figure that is dwarfed by 2,920 male completions in the same trade. Figure 2.8 provides an overview of completions by women in major non-traditional trades.

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<sup>13</sup> Braid and Mayer, *op.cit*

<sup>14</sup> *National Apprenticeship Survey: British Columbia Overview Report*, Statistics Canada, 2007 (ii)

Figure 2.8 Apprenticeship completions by women, Canada

Trade group	1992		2005	
	Number of women	% of women in total completions	Number of women	% of women in total completions
Building construction trades	25	0.7%	45	1.5%
Electrical, electronics and related trades	25	0.9%	60	1.7%
Industrial and related mechanical trades	20	0.8%	30	1.4%
Metal fabricating trades	25	0.6%	80	1.7%
Motor vehicle and heavy equipment	45	0.9%	70	1.6%

Source: Statistics Canada, The Daily, November 15, 2007

## 2.5 Key conclusions from data analysis

- Occupational segregation persists in BC, with a majority of women being concentrated in lower-skill jobs in administration, sales and services.
- Women are particularly under-represented in trades, comprising only 6.7% of the workforce in the broad occupational category of trades, transport and equipment operations. They are particularly poorly represented among mechanics, machinists, equipment operators and in construction occupations where they comprise only between 1.5% and 4.2% of the workforce.
- Within the trades, women are disproportionately concentrated among the 'helper' categories of workers, indicating that they perform less-skilled tasks than men.
- Occupational segregation contributes to a wide gender pay gap, since lower-skill jobs where women dominate also pay less. In addition, women are paid significantly less than men for the same type of work in the trades.
- Women are represented even more weakly in apprenticeship training, representing less than 3% of enrolled students and less than 2% of graduates.
- Aboriginal and immigrant women seem to be more likely to take up trades-related occupations than the general female population in BC.

### 3. BARRIERS TO PARTICIPATION OF WOMEN IN SKILLED TRADES

Literature reviewed for the purposes of this paper<sup>15</sup> suggests that barriers to participation of women in non-traditional occupations in skilled trades and other fields, such as information technology, are complex and deeply entrenched. The ideas about gender-based roles are developed from early childhood through attitudes and role models encountered in the family, schools and in the wider social environment. Students, educators and employers tend to follow established behavioural patterns when choosing career paths, delivering training or recruiting employees. To complicate matters further, it is both men and women who perpetuate gender-based stereotypes and influence paths of women in the career development journey.

A number of research studies<sup>16</sup> analyses obstacles that restrict women's career choices during their *education and training* from various perspectives. At a more aggregate level, the key challenges could be categorised as follows:

- Gender stereotyping at schools and in wider society at early stages of life and education;
- Low awareness of skilled trades training and careers among women; and
- Challenges encountered by women in accessing and completing apprenticeship training.

Research<sup>17</sup> also suggests that integrating women into workplaces that employ skilled workers requires more than just opening the doors to female employees. The key barriers in the *workplaces* relate to:

- Recruitment practices that limit access to employment; and
- Workplace culture and practices that erode retention of women.

Inconsistent political support at the *public policy level*<sup>18</sup> is another barrier. It affects not only the stability of funding devoted to programs that address barriers to women in skilled trades, but also the prominence of occupational segregation in the trades in policy discussions.

In addition to the generic challenges faced by women, this paper also highlights some available information about the issues encountered by women from particular socio-economic backgrounds and at particular phases of their lives. Wherever possible, specific challenges faced by school-girls and youth, women with young children (particularly single mothers), women returning to work after breaks to look after children or ailing relatives and older women are highlighted. In addition, women from particular socio-economic backgrounds also face more complex challenges and they include Aboriginal women, low-income women, long-term unemployed, visible minorities, immigrants and women living in rural areas.

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<sup>15</sup> Please refer to the remaining sub-sections within Section 3 for references to literature. The introductory section provides an overview based on the author's interpretation of key findings that emerged from various sources.

<sup>16</sup> Ibid

<sup>17</sup> Ibid

<sup>18</sup> See Mastracci 2004, op.cit

### 3.1 Stereotyping and self-stereotyping in early education

The barriers to women exist not only at the entry points to the skilled-trades workplaces, but also among social and educational institutions that influence the lives of girls and women at earlier stages of their professional development. Prevalent perceptions and stereotypes about gender-based work aptitudes and abilities are transferred onto boys and girls from an early age, affecting their choices of subjects at schools as well as subsequent career paths.<sup>19</sup>

Ideas about gender-based roles are formed from early childhood through families, friends and the media. These perceptions are further reinforced through schooling and reflected in different attitudes towards the school curriculum, with girls typically gravitating towards non-math-based subjects. Over the years, there have been many debates on the reasons why boys and girls tend to take up different subjects, some of them focusing on cognitive factors and others on the influence of the wider environment. In the case of many school-age girls, the environment plays an undeniably significant role. It is often parents and teachers, the key influencers on their choices of subjects at schools, who steer them away from mathematical and technical subjects. Gender bias at schools does not even have to take the form of blunt advice to take subjects that are 'more appropriate for girls.' It can also be quite subtle, such as kindling any existing self-doubts about girls' ability to do math instead of helping them overcome specific issues they encounter. School experiences also socialize boys into developing strong ideas about gender-appropriate occupations, which prepare the ground for their resistance to tradeswomen at workplaces later in their lives.<sup>20</sup>

When it comes to career orientation, key influencers are either not fully informed about the skilled trades careers or they assume that girls would not be interested. Research from the UK suggests that teachers and career advisors even actively discourage girls from considering the skilled trades.<sup>21</sup> It is often assumed that girls would not be interested in 'dirty' and 'heavy' work and that they should stick to something that is less physically demanding. Even when they come from families where their male relatives are tradespeople, they are often discouraged from entering the trades, unlike their male siblings.<sup>22</sup>

### 3.2 Lack of awareness about skilled trades

Apart from strong ideas about the gender-based division of labour that develop early in life, the negative image of skilled trades is also a significant factor preventing both boys and girls from considering careers in the trades. Over the years, skilled trades have been relegated to second-class occupations with professional jobs and university education carrying much more prestige in the society. Among young people, the trades tend to be considered as dirty and menial, while they are also looked down upon as an option for less academically gifted students.<sup>23</sup>

Misconceptions about careers in the trades are only part of the picture. A generally lower level of awareness about rewarding career paths in the skilled trades among girls and women compared to men, limits their view of the trades even further. For example, research from the Northwest Territories and Nunavut indicates that government and non-government agencies consider the

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<sup>19</sup> Canadian Apprenticeship Forum, *Accessing and Completing Apprenticeship Training in Canada, Barriers Experienced by Women*, 2004; Scullen op.cit

<sup>20</sup> Ibid

<sup>21</sup> Equal Opportunities Commission, *Women in Non-Traditional Training and Employment*, UK, 2004. See also Fuller, Alison; Beck, Vanessa; Unwin, Lorna, *The Gendered Nature of Apprenticeship: Employers' and Young People's Perspectives*, Education + Training, Vol. 47, 2005

<sup>22</sup> Scullen, op.cit

<sup>23</sup> Canadian Apprenticeship Forum 2004, op.cit; Government of Yukon, *Yukon Women in Apprenticeship and Trades*, 1999

lack of awareness of opportunities in skilled trades as the main barrier to women entering the trades.<sup>24</sup> Weak familiarity of women with trades careers is not surprising, given that informal networks and prior work experience are the key reasons why apprentices become interested in specific trades. The results of the 2007 National Apprenticeship Survey for BC reveal that individuals in informal networks, such as family, friends or other tradespeople as well as teachers, are the primary point of reference for nearly 50% of both male and female apprentices when deciding to enter trades training. Prior work experience was the second most important factor, reported by between 28% and 30% of apprentices. Only 15% to 16% of the apprentices became interested in the trades through their high school or post-secondary studies, while various forms of advertising seem to play a minor role in stimulating interest. A mere 4% to 5% of apprentices became interested in their trade based on promotional activities.<sup>25</sup>

Because women lack both informal networks and work experience in non-traditional trades, helping them discover potential paths in non-traditional trades through more formal channels such as education<sup>26</sup> or career centres is very important. Information received in job centres is frequently inadequate as career advisors typically steer men and women towards traditional roles<sup>27</sup>. Women are not only generally poorly aware that the trades could be a viable career for them, but they do not seem to realize that the financial rewards for traditionally male and female jobs are very different. Women from low-income backgrounds and the long-term unemployed lose out from biased career guidance as they would particularly benefit from up-skilling and better-paid jobs in the trades. Research findings from the UK in which 1,100 adults were surveyed, indicate that 67% of women were not aware of the pay difference in the work typically performed by women and men. Out of these, 67% of women aged 16-24 said that they would have considered a wider range of career options if they had known about it,<sup>28</sup> suggesting that the financial rewards of the skilled trades careers can be a powerful incentive for women. Research findings from Australia also confirm that the lack of accessible information on careers in trades is a barrier to women.<sup>29</sup>

### 3.3 Lack of basic academic and hands-on skills

As a result of directing boys and girls into different areas of the school curriculum, women generally develop weaker math and technical skills. The lack of basic academic skills in these areas puts them at a disadvantage relative to men when trying to enter apprenticeship programs. A survey of employers in the Northwest Territories and Nunavut indicates that employers place lack of literacy and inability to pass the trades entrance exam as the number one barrier to women.<sup>30</sup> Women interested in entering the trades generally also have weaker hands-on skills than their male counterparts. Boys and men have more opportunities to develop these skills in informal settings, for example while helping their male relatives who are in the trades. Girls and women rarely pick up any practical skills through informal work,<sup>31</sup> which in addition to other workplace-related barriers, is likely to further reduce their hiring prospects.

Employers also seem to prefer to recruit apprentices among existing in-house workers at entry-level positions.<sup>32</sup> Women are by default largely absent from this recruitment pool and even if there were more of them in entry-level positions, it is likely that employers would still favour selecting

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<sup>24</sup> Tompkins, Kate *We Can Hold Up Half the World! Women in Trades and Industry Occupations in the Northwest Territories and Nunavut*, 2005

<sup>25</sup> Statistics Canada 2007 (ii), op.cit

<sup>26</sup> Scullen, op.cit

<sup>27</sup> Mastracci 2004, op.cit; Fuller et.al 2005, op.cit

<sup>28</sup> Equal Opportunities Commission (EOC), *Free to Choose: Tackling Gender Barriers to Better Jobs*, UK, 2006

<sup>29</sup> Security4Women 2007, op.cit

<sup>30</sup> Tompkins 2005 op.cit

<sup>31</sup> Government of Yukon 1999, op.cit

<sup>32</sup> Tompkins 2005, op.cit

men for apprenticeships since they are considered safer candidates<sup>33</sup> for long-term retention. A more formal route into the trades through pre-apprenticeship training helps to equip women with academic and technical skills necessary to break into the field.

### 3.4 Personal cost of training

Becoming aware of career options in the trades and enrolling in pre-apprenticeship and apprenticeship training programs is only a first hurdle towards achieving certified tradesperson status. Women face a number of personal and institutional challenges throughout the training. The barriers can be roughly divided into two groups: those related to the direct and indirect costs of training and those related to some of the features of training itself.

Several studies confirm that the personal cost of training is a serious barrier. The National Apprenticeship Survey finds that both men and women in Canada find the cost of training challenging.<sup>34</sup> The direct costs of tuition, textbooks and tools are approximately \$1,335 per year. The inclusion of living expenses, childcare and transportation brings the total to \$3,233. However, these costs will vary among individuals based on their personal circumstances.<sup>35</sup> Women from low-income backgrounds and single mothers with several children are likely to be particularly vulnerable to additional costs such as childcare and transportation.

On top of the high costs associated with training expenses, the apprentices can also suffer a loss of income once they start the training, if they leave their previous jobs, while their earnings as trainees or apprentices may not be sufficient to support them. After family issues, insufficient work or income is the second most important reason for discontinuing the training among female apprentices and the top reason among male apprentices.<sup>36</sup>

### 3.5 Perceived cost of training women

The incurred, or expected, cost of training women for institutions and employers is also a barrier to consider. Research from the United States illustrates the cost challenges encountered by educational institutions when training women. Some of the services targeted specifically at women, such as mentoring or childcare assistance, typically demand additional resources. Finding job placements for female apprentices also takes longer. When combined, these factors can make women less attractive as training participants to training institutions than male apprentices. Educators are often challenged to balance the recruitment of female apprentices with the time and financial restrictions imposed by the budgets that they operate with.<sup>37</sup> The funding for pre-apprenticeship programs aimed at women tends to be unstable and subject to frequent renewals, limiting the capacity of educational institutions to make long-term plans for recruitment of trainees or expansion of the programs.<sup>38</sup>

Employers are generally concerned about the cost of apprenticeship training, including training of male apprentices. For example, work hours 'lost' to classroom training or the cost of a certified tradesperson who trains the apprentices on the job are seen as some of the costs that employers have to bear. In response, the Canadian Apprenticeship Forum released a report in 2006 to present the return on apprenticeship training investment for employers.<sup>39</sup> The wariness of employers towards apprenticeships is compounded in the case of female apprentices. They are

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<sup>33</sup> Canadian Apprenticeship Forum 2004, op.cit

<sup>34</sup> Statistics Canada, *National Apprenticeship Survey: Canada Overview Report*, 2007 (i)

<sup>35</sup> Canadian Apprenticeship Forum *Apprentices Enrolled at Publicly Funded Canadian Colleges and Institutes: Profiles, Investments and Perceptions*, 2008

<sup>36</sup> Statistics Canada 2007 (i), op. cit

<sup>37</sup> Mastracci 2004, op.cit

<sup>38</sup> Tompkins, Kate *Preparing Women for Careers in Trades and Technical Occupations in the Northwest Territories and Nunavut*, The Northern Territories Federation of Labour, 2006

<sup>39</sup> Canadian Apprenticeship Forum, *Apprenticeship – Building a Skilled Workforce for a Strong Bottom Line*, 2006

especially seen as a risk, rather than an investment, as employers expect that they may interrupt their apprenticeship due to family responsibilities. Female apprentices are also seen as a threat to the workplace culture in case they complain about inadequate facilities or the behaviour of co-workers.<sup>40</sup> Finding employers willing to take on women as apprentices is a challenge that needs to be addressed, even if the level of awareness about the trades is raised among women. Applicants cannot enrol in the apprenticeship program until they have an employer to sponsor them, which is a significant additional hurdle given that women do not have access to informal networks that can provide 'warm leads' to potential employers.

### 3.6 Gaps in training practices

Research from the United States suggests that unfamiliarity with a range of technical skills that need to be acquired during apprenticeship training can delay the achievement of certified tradesperson status among apprentices. Apprentices need to be clear about the milestones that they should reach at different stages of training and about the type of on-the-job training that their employers should provide. Employers who provide apprenticeship placements do not always secure adequate technical training for apprentices. While both male and female apprentices get their share of low-level tasks, women often feel that their male counterparts are more readily rotated into roles that help them build the skills they really need for their trade. Women perceive that they are being singled out for irrelevant, menial tasks such as sweeping the floors, which prevent them from developing into well-rounded, employable certified tradespersons. To develop their skills on the job, apprentices are supposed to work under supervision of experienced tradespersons. Women, however, find that they usually need to be very assertive in order to persuade the tradespersons and other experienced colleagues to share their knowledge with them. As a result of inadequate on the job training, many women complete apprenticeship training without developing all the skills that they need at a certified tradesperson level, which in turn makes them less marketable than men.<sup>41</sup>

Sexist attitudes can be a challenge in the classroom. Unwelcoming behaviour on the part of male classmates and even instructors can lead to isolation of female students.<sup>42</sup> The lack of female role models during training is also a big impediment to a successful completion of training and transition into work. Female classroom teachers and instructors are still quite rare, although some colleges report that the number of female instructors has increased significantly.<sup>43</sup> Being taught by women during apprenticeship training demonstrates to female students that they too can aspire to success in the trades. At the same time, learning from women also socializes male students into working with tradeswomen, which can make them more open to the idea of having women present in the workplace.<sup>44</sup>

Pre-apprenticeship and apprenticeship training helps women develop strong technical skills to do the job, but they can still be ill prepared to deal with sexist attitudes in the workplace. Hostile attitudes from their male colleagues in the workplace can make female apprentices feel isolated and dejected. Trying to develop professionally while having to deal with sexist behaviours can slow down the completion of training. The lack of female role models, who could act as mentors or provide more informal support, further hinders career progression and workplace integration of female apprentices. Although there are examples of very good male role models, it seems to be quite rare that a female apprentice is 'taken under the wing' of an experienced male tradesperson as readily as a male apprentice.<sup>45</sup>

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<sup>40</sup> Canadian Apprenticeship Forum 2004, op.cit

<sup>41</sup> Port Jobs, *Opportunities and Challenges Facing Women in Construction in Washington State*, 2006

<sup>42</sup> Canadian Apprenticeship Forum 2004, op.cit

<sup>43</sup> For example, see T. Pongracz interview in Tompkins 2006, op.cit

<sup>44</sup> Canadian Apprenticeship Forum 2004, op.cit; Government of Yukon 2005, op.cit

<sup>45</sup> Canadian Apprenticeship Forum 2004, op.cit

### 3.7 Biased recruitment practices

Informal recruitment practices that prevail in the trades are an issue for tradeswomen at all stages of their careers. Job insecurity due to the contract-based nature of trades work is a fact of life for both men and women in the trades, particularly in the construction industry. Having to secure new jobs regularly is however a bigger challenge to women because they are typically excluded from informal networks that circulate information about the jobs, especially in the early stages of their careers.<sup>46</sup> Word of mouth is still the most common method for recruiting tradespeople. In a survey of employers carried out in the Yukon, around 90% of employers mentioned that they use word of mouth when looking for workers. Newspaper advertising, the second most common recruitment source, was used by less than 60% of the employers.<sup>47</sup>

Job insecurity and lack of access to informal recruiting networks is particularly challenging to female apprentices. Losing the placement with their employer and not being able to find a new employer willing to provide another placement can force women to drop out of apprenticeship training altogether. Approaching potential employers without any 'warm' introductions can be daunting, not just for apprentices but also for more experienced women at the certified tradesperson level. Certified female tradespersons are also more readily laid off than certified male tradespersons, which has wider implications on women's preparedness to address sexism in the workplace. Job insecurity is a factor that prevents women from raising harassment issues, for fear that they will earn a reputation as 'troublemakers' and find it even harder to find another job.<sup>48</sup>

Physical strength is another factor that prejudices employers against recruiting women. The typical concern is that women will not be able to handle heavy lifting and that they will be more prone to injury than male workers. Several studies however refute these assumptions and indicate that physical strength requirements are exaggerated.<sup>49</sup> Moreover, some of the traditionally 'female' jobs such as nursing often require a great deal of physical strength. Research findings from the Yukon suggest widely different perceptions of the importance of physical strength among women and employers. Unlike employers, an overwhelming majority of the surveyed women do not see it as a problem, as most of the heavy lifting is automated and therefore brute strength is not a pre-condition for the job any longer.<sup>50</sup> There are also some more encouraging indications that at least a small number of employers are starting to realize that the nature of trades work is changing, requiring a much greater use of technical skills rather than heavy labour.<sup>51</sup>

### 3.8 Workplace culture and facilities

Placing women into skilled trades jobs is only the beginning of their integration into trades employment. Dealing with workplace culture is often considered the single biggest barrier to their long-term retention in the trades. Organisational culture can be defined as the processes in workplaces that impact on the beliefs, values and behaviours of an organisation and its staff. Although it is intangible, work culture is extremely important as it defines the unwritten rules that exist in a workplace which everyone follows without questioning. However, the way things are done in an organisation can put some people at a disadvantage if they are not part of the majority.<sup>52</sup>

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<sup>46</sup> Canadian Apprenticeship Forum 2004, op.cit; Port Jobs, op.cit

<sup>47</sup> Government of Yukon 2005, op.cit

<sup>48</sup> Port Jobs, op.cit

<sup>49</sup> Scullen op.cit, Port Jobs op.cit; Canadian Apprenticeship Forum 2004 op.cit; Government of Yukon 2005 op.cit

<sup>50</sup> Government of Yukon 2005, op.cit

<sup>51</sup> Tompkins 2005, op.cit

<sup>52</sup> United Kingdom Resource Centre for Women, *SET Workplace Cultures: Making a Positive Impact*, 2007

Demonstrating technical excellence is not sufficient in itself to overcome complex barriers in workplace culture. Tradeswomen report that they have to work harder than men at proving themselves on each new jobsite. Women also feel that they are judged by an entirely different set of standards and that they have to be better than men in order to be judged as good as men.<sup>53</sup> In addition to displaying outstanding technical capabilities, tradeswomen also have to show the ability to accept other unwritten rules of the work environment. Hostility towards women in the trades environment can be based on very irrational reasons, which women cannot do much about. For example, a study from the United States reports that there is an unspoken sense that they are taking the jobs from men who have families to support.<sup>54</sup> The role of women as breadwinners, especially single mothers, seems to be overlooked. Some other sources report that women are told that they are not welcome simply because they are women and as such, do not belong at the worksites. Various other forms of sexism, harassment and unfair treatment that have been meted out to tradeswomen have been well documented in many studies.<sup>55</sup>

Inadequacies in physical working environment are also an issue, such as separate changing facilities, washrooms, well-lit and safe sleeping quarters at remote worksites as well as scarcity of female work clothing.<sup>56</sup>

### 3.9 Family responsibilities

Women still remain the primary caregivers in families for various social reasons and having to juggle career and family responsibilities is a reality for a great majority of them. Because of this, there is an underlying assumption in skilled trades that women are less of a safe investment than male employees and they might leave or have to take extended breaks to care for children or elderly relatives. The work-life balance in skilled trades may be a strong barrier, where long and inflexible working hours are particularly challenging. The workday starts early, before daycare facilities open and finishes after they close. This is a particularly significant challenge for women who do not have other family members to provide childcare before and after regular daycare hours.<sup>57</sup>

Female apprentices are particularly affected by existing work practices, since they tend to be younger than certified female tradespersons and have pre-school or school-aged children.<sup>58</sup> The findings of the 2007 National Apprenticeship Survey suggest that the existing training structure could be particularly unfriendly towards women. 13% of women who discontinued apprenticeship training have done so because of family reasons, compared to only 1.9% of men.<sup>59</sup> Apprentices generally do not have much room to negotiate flexible work hours with employers and often have to accept whichever job is on offer. The lack of affordable childcare is a related barrier, particularly affecting apprentices who earn lower wages than certified female tradespersons. Employers can however vary greatly in their attitudes towards family obligations, with some being more accommodating than others. After achieving a certified tradesperson level, women have more flexibility in choosing employers who might have more daycare- or school-friendly schedules.<sup>60</sup> Family responsibilities can also restrict mobility of women, particularly on large-scale projects which require traveling to remote worksites. The work hours are usually inflexible, which makes fitting in school or daycare hours with traveling to remote work locations extremely difficult.<sup>61</sup>

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<sup>53</sup> Port Jobs, op.cit; Canadian Apprenticeship Forum 2004, op.cit; Scullen, op.cit; interviews with Archer and Watt-Malcolm

<sup>54</sup> Port Jobs, op.cit

<sup>55</sup> Canadian Apprenticeship Forum 2004, op.cit; Port Jobs op.cit; Mastracci 2004, op.cit; Scullen, op.cit

<sup>56</sup> Canadian Apprenticeship Forum 2004, op.cit; Port Jobs, op.cit

<sup>57</sup> Ibid

<sup>58</sup> Port Jobs, op.cit

<sup>59</sup> Statistics Canada 2007 (i) op.cit

<sup>60</sup> Port Jobs, op.cit; Tompkins 2005, op.cit

<sup>61</sup> Canadian Apprenticeship Forum 2004, op.cit

Both in NTOs and in more traditionally female occupations, the perceived 'risk' that family responsibilities pose to women's commitment to their apprenticeship training or career seems to be overstated. The participation of women in the labour force after childbirth has increased dramatically over the years. In 2006, 73% of all women with children under the age of 16 living at home were working, compared to only 39% in 1976. There has been a particularly significant increase in the number of working mothers with very young children. In 1976, only 28% of women with children under the age of 3 were employed compared to 64% in 2006.<sup>62</sup>

### **3.10 Additional barriers faced by specific sub-groups of women**

In addition to the generic workplace barriers that are encountered by young girls, female apprentices and certified tradespersons in general, there are specific sub-groups of women that face additional barriers related to their socio-economic or ethnic background. A study carried out in Australia calls for more research in this area as well as for exploration of linkages between the lack of representation of women in skilled trades and intergenerational poverty.<sup>63</sup> Research carried out by the Canadian Apprenticeship Forum highlights a number of barriers in trades faced by persons from specific socio-economic groups or ethnic backgrounds.<sup>64</sup> The analysis in the sections below has been mainly based on this research.

#### **3.10.1 Aboriginal women**

Research by the Canadian Apprenticeship Forum suggests that Aboriginal people seeking apprenticeship, especially Aboriginal women, face systemic discrimination. They are assigned to more menial tasks and low-end jobs than other apprentices, especially in the first year of the apprenticeship.

Women and girls from Aboriginal backgrounds face some additional resistance towards the trades from their families compared to the general population. Some Aboriginal parents may not place high value generally on education. Those who do, prefer university-level education to the trades, which is the case also with parents from the general population. There are also some indications that Aboriginal parents may be suspicious of the contractual nature of the apprenticeship model.

The prospect of relocation to the training centres and on-the-job training sites for apprentices living on reserves or in remote areas can be an additional unsettling factor for Aboriginal people. In addition to the human cost of moving away from their communities, the financial costs of training are significantly higher than for trainees who do not have to relocate. Aboriginal people entering apprenticeship training can also be more inadequately academically prepared for the coursework. They often need to upgrade their high school math, sciences and English skills. Coupled with factors such as the culture shock of moving to the new place, this can lead to many Aboriginal students dropping out of the programs.

Some of the rules governing First Nations communities can also discourage Aboriginal women, particularly those based on reserves, from pursuing careers in the trades. For example, they may lose their housing benefits if they do not train or work close to home.<sup>65</sup>

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<sup>62</sup> Statistics Canada, *Women in Canada: Work Chapter Updates*, 2006

<sup>63</sup> Security4Women, *Towards a Sustainable Economic Future: Women and Vocational Education and Training*, 2007

<sup>64</sup> Canadian Apprenticeship Forum 2004, op.cit

<sup>65</sup> Ibid

### 3.10.2 Women from visible minorities and immigrant women

Women from visible minorities and immigrant women encounter preconceived ideas about the capabilities of people from different races or cultures, in addition to the existing barriers faced by the general female population. Dominance of certain cultural or ethnic groups on worksites can create an unwelcoming environment for people from other racial or cultural backgrounds. Hiring practices can involve artificial job requirements as a way of screening out candidates from minority backgrounds. For example, employers can use language requirements, when none are necessary, to disqualify immigrants. Even when they are hired, the retention and success of immigrant and visible minority workers can be undermined. For example, the discrimination can manifest itself in relegating the apprentices from these groups to carrying out menial tasks rather than being taught the real skills of the trade.

Research indicates that the bias against non-university-based higher education is particularly strong among visible minority and immigrant families. In addition, both groups lack the established informal networks of tradespeople who can help them find out more about the trades and access the workplaces. Career guidance counsellors are often inadequately prepared to fill the gap and provide advice to immigrants and visible minorities as they do not always well understand specific barriers facing these populations. The cost of training is also a significant barrier, given that many members of visible minorities and immigrants are economically disadvantaged.

Community-based organisations representing particular ethno-cultural groups play an essential role in providing services designed to prepare visible minorities for apprenticeship. However, the lack of funding limits the array of services that they can provide. Resources of various immigrant-supporting agencies typically do not address the transition of immigrants into skilled-trades apprenticeships and occupations. Poor language skills among recent immigrants, particularly the command of technical terminology, can make it even harder for them to enter trades training or pass the trades exams. Weaknesses in the credentials recognition system are also an obstacle to immigrants. They are often unable to receive recognition of their educational credentials from their country of origin, which may deter some of them from taking up careers in the trades if they have to start from scratch. Many of them have families to support and cannot afford to spend years earning apprenticeship-level wages.<sup>66</sup>

### 3.10.3 Women from remote areas

Obtaining the required number of on-the job training hours and attending in-class training is a serious barrier to women living in rural areas, which includes Aboriginal women living on remote reserves. The absence of training facilities close to home adds significant accommodation and transportation costs to the direct cost of training. Relocation to a place of training is a reality for many apprentices in BC. A recent survey of graduate apprentices in BC found that 38% of former apprentices in public institutions had to relocate for training, particularly in the Interior of the province.<sup>67</sup> Alternative delivery methods of in-class training to apprentices living in rural areas have been used, but they are costly. The lack of employment opportunities in the trades within their communities is an additional disincentive for women in rural areas to consider careers in trades.<sup>68</sup>

### 3.10.4 Women from low-income backgrounds and single mothers

A combination of financial, educational and personal factors makes the transition of women from low-income backgrounds into skilled trades particularly difficult. Compared to their male peers, young unattached women as well as those aged 35-44 are more likely to fall in the low-income

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<sup>66</sup> Canadian Apprenticeship Forum 2004, op.cit

<sup>67</sup> BC Statistics and the Outcomes Working Group, *The Graduate Follow Up Survey of Apprenticeship Students*, 2007

<sup>68</sup> Canadian Apprenticeship Forum 2004, op.cit; Tompkins 2006, op.cit

category<sup>69</sup>. This suggests that financing training, transportation and other living expenses during pre-apprenticeship or apprenticeship training is a bigger challenge to them than to men from the same age groups. Women from low-income backgrounds are also likely to have lower educational outcomes, including a lack of basic literacy or math skills which are a precondition for entering apprenticeship training. In addition to significant educational and financial issues, women from poor backgrounds are often confronted with serious personal problems<sup>70</sup> such as family violence or substance addiction. Some of them, especially the long-term unemployed ones, are also likely to have a weak work ethic in matters such as punctuality or reliability. Experiences of Australian training providers suggest that women from poor backgrounds do need additional support also when transferring to employment, since their employment outcomes upon completion of trades training are also weak or inadequate.<sup>71</sup>

Many lone-parent families headed by mothers are likely to be in the low-income category, more than is the case with families headed by male single parents,<sup>72</sup> which suggests that they may be particularly well motivated to improve their financial situation. Single mothers are also more likely to be unemployed than women from two-partner families. In 2006, just 46% of lone mothers with children under the age of 3 were employed, compared with 66% of mothers from two-parent families.<sup>73</sup> Given their financial situation, the cost of childcare both during training and employment can be a challenge for single mothers, especially for those with several dependents. At the same time, they could be particularly motivated to enter a career in skilled trades that pays a liveable wage<sup>74</sup> and which could help them to both return to work and pay for childcare.

#### 3.10.5 Older women returners

Women returners are those women who return to employment after a period of child rearing or caring for other family members. A recent study in the UK<sup>75</sup> looked at partnered, returner women aged 25 to 55 who have taken one or more breaks from work for caring reasons in the last ten years and have not worked or worked part-time at the time when the study was carried out. The partnered women returners have not been traditionally the focus of government policies, as they fall outside the state benefit system, but the study recognised that they may be a valuable resource in the labour market. Many of them have built up valuable transferable skills through their previous employment.

The lack of qualifications is one of the biggest barriers for women returners to enter NTOs. Older workers generally have more financial commitments than school leavers, so it is harder to commit to four years of apprenticeship training even when they manage to qualify for training. Older women may also need some general re-orientation to the world of work. Their confidence can be affected if they are feeling much older than other colleagues who are entering employment at the same time as they are or they might feel that their skills are out of date. Many of the women returners will continue to have family obligations, such as caring for younger or school age children even after they have finished forming their families, and a lack of flexible working practices in the trades can be a barrier for them. Greater encouragement by employers and the possibility of entering re-training programs would help women returners move into NTOs. One important conclusion of this research is that women with a higher level of qualifications would be more likely to seek traditionally male jobs.

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<sup>69</sup> Statistics Canada, *Women in Canada*, 2005

<sup>70</sup> Tompkins 2005, op.cit

<sup>71</sup> Security4Women 2007, op.cit

<sup>72</sup> Statistics Canada 2005, op.cit

<sup>73</sup> Statistics Canada 2006, op.cit

<sup>74</sup> Port Jobs, op.cit

<sup>75</sup> Turgoose, Christine; Hall, Linda; Carter, Angela; Stride, Chris, *Encouraging an Increase in the Employment of Women Returners in Areas of Skill Shortage in Traditionally Male Industries*, University of Sheffield, 2006

## 4. CHALLENGING THE BARRIERS

Working backwards through the career development cycle reveals the interconnectedness of a whole range of issues, all of which need to be addressed in order to increase representation of women in skilled trades.<sup>76</sup> Ensuring that women reach a critical mass in the trades is the ultimate goal, which greatly depends on retaining more women in skilled trades careers. The basic precondition to retention is ensuring that more women can enter trades employment in the first place. In order to have more women with the appropriate skills ready for recruitment, more of them need to complete pre-apprenticeship or apprenticeship training. However, sex-based occupational stereotyping and low awareness of trades careers among women prevent more of them from enrolling in training programs. Given the complexity of the issues that are interwoven across social, educational and labour market institutions, there is no single initiative that can by itself bring about the ultimate outcome of mainstreaming women into trades workplaces.<sup>77</sup>

Initiatives aimed at addressing a full range of issues need to be undertaken simultaneously. For example, changing attitudes of girls towards math and technical subjects in schools will not by itself change their access to skilled trades workplaces unless other barriers in the chain are also addressed. If no work is done to address barriers in recruitment practices and work culture, women will continue to hit these roadblocks regardless of the numbers that enter or complete the training. The high numbers of female graduates will not by themselves change work practices. An example of the initiatives undertaken by the European Commission in science and research, which is another non-traditional area for women, illustrates the case for addressing both labour supply (training women in skilled trades) and labour demand (employing and retaining women in skilled trades) issues.<sup>78</sup>

### European Commission, participation of women in science and research

The European Commission provides significant funding for projects in various areas of science and research through its Framework Programs. The key goal of the Framework Programs is to support the creation of a joint European research area. Weak representation of women on the projects that are being funded as well as on the European Commission's bodies that are in charge of implementing and managing the Framework Programs has been a concern since the late 1990s. A strategy to promote gender equality in science and research was launched in 1999. Among other things, one of the main goals of the strategy was to increase representation of women in all areas of project implementation and project management. For the first time, a quantitative target of 40% representation of women on the European Commission's bodies that are in charge of implementing the Framework Programs has been established.<sup>79</sup>

While the representation of women is improving, it still falls short of the 40% target. In 2003, the representation of women on the Framework Program's bodies was between 24% and 27%. The proportion of women in leadership positions on the scientific projects being funded was even lower. The share of women among project coordinators was only 16% in 2003.<sup>80</sup> A more up-to-date report is due to be published in the near future, but it would be surprising if the results are much different.<sup>81</sup> A common misconception among many organisations was that there were simply not enough female scientists out there to reach the desired participation goals. However, in 2003, 40% of all PhD graduates in the field of science, mathematics and computing were female.<sup>82</sup>

<sup>76</sup> Various studies suggest that holistic solutions are needed. For example see Mastracci op.cit; Armour interview in Tompkins 2006, op.cit; Scullen, op.cit.; Equal Opportunities Commission (EOC), *Free to Choose: Tackling Gender Barriers to Better Jobs*, UK, 2006; Braundy, Marcia, *What Needs to Change to Get More Women into Apprenticeship? No More Lip Service!*, 2004 (revised)

<sup>77</sup> Author's interpretation based on various sources. Consult sections below for more detailed references.

<sup>78</sup> See Mastracci, 2004 for a detailed discussion on the need to address both labour supply and labour demand issues

<sup>79</sup> Women and Science Unit, European Commission, Gender monitoring studies: <http://ec.europa.eu/research/science-society/index.cfm?fuseaction=public.topic&id=1540>

<sup>80</sup> *Women and Science: Excellence and Innovation - Gender Equality in Science*, 2005, European Commission

<sup>81</sup> See the available results of gender monitoring studies at: <http://ec.europa.eu/research/science-society/index.cfm?fuseaction=public.topic&id=1540>

<sup>82</sup> *She Figures*, 2006, European Commission

## 4.1 Do the initiatives work?

Various initiatives and programs have been undertaken both in Canada and internationally by governments, educational institutions, professional associations and non-government organisations to integrate more women in NTOs. They generally fall into two broad categories – those aimed at training women for trades careers and those aimed at educating or providing technical assistance to employers and other actors that influence women’s careers in skilled trades. The evidence on the success of the programs is however quite incomplete.<sup>83</sup>

### 4.1.1 Defining success

In a report on barriers to accessing and completing apprenticeship training, the Canadian Apprenticeship Forum concludes that most of the programs aimed at increasing participation of women in apprenticeship and the trades have not succeeded. The representation of women in apprenticeships remains low despite the initiatives that have been implemented over the years. Looking at the final desired outcome, i.e. a substantial representation of women in skilled trades, could be too broad a measure of success for all programs. While greater representation of women in skilled trades occupations is certainly the underlying rationale for various initiatives whether they are aimed at training more women or educating employers, it is a goal that goes well beyond the boundaries of influence of individual programs. For example, programs that are focused only on providing training for women in skilled trades can ensure that women graduate with outstanding technical and life skills. Programs can usually also help women find placement, but they have very little influence over their retention in the workplace. The remit of their programs rarely includes close work with employers to help them prepare their workplaces to welcome women, which is the key factor in ensuring retention.

Some researchers find that the initiatives have not increased the number of women in trades because of the interplay of various factors such as lack of stricter legislation on workplace equity, negative image of trades, unstable sources of funding for programs, insufficient work with employers to ensure that workplaces welcome women and lack of support from senior political and corporate levels.<sup>84</sup> The definition of ‘success’ in different types of programs needs to be developed further and more research is required on criteria that could be used to measure the achievement of short-, medium- and long-term outcomes for different types of projects. For example, when exploratory courses or pre-apprenticeship training are specifically targeted at women, their capacity is frequently insufficient to enrol all women who are interested.<sup>85</sup> At least from the perspective of raising awareness about careers in trades among women as well as refuting the assumption that women are not willing to enter trades, it could be said that the programs have succeeded.

Systematic evaluation of the initiatives aimed at women in trades to demonstrate successes and to identify specific areas for improvement does not seem to be practised. Given that the funding for most of the programs is modest in addition to being unstable,<sup>86</sup> the resources that can be devoted to systematic evaluation are limited. Developing some simple evaluation guidelines and tools that could be implemented by organisations with minimum effort could help. A more rigorous approach to reviewing the outcomes of the projects, taking into account also the context

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<sup>83</sup> Author’s observation based on available information

<sup>84</sup> Watt-Malcolm, Bonnie and Young, Beth *Employers and Canada’s Policy Initiatives to Promote Women in Skilled Trades*, 2005; Braundy, op.cit

<sup>85</sup> Government of Yukon 2005, op.cit; Tompkins 2006, op.cit; Braundy, op.cit

<sup>86</sup> Tompkins 2005, 2006, op. cit.

within which they are run, would provide a more articulate assessment of whether the programs are working or not.

#### 4.1.2 Existing methods for measuring success and evidence

Researchers working on a 2006 study, which reviewed pre-apprenticeship training programs for women in Canada, have not found any systematic evaluations of the training programs.<sup>87</sup> In order to identify what types of initiatives are working and why, they carried out a series of qualitative interviews with key informants, usually managers of the programs. A number of other research studies also used qualitative research methods such as surveys, interviews and focus groups with women, educators and employers to identify existing good practices, weaknesses and the actions that should be undertaken in the future.<sup>88</sup> Therefore, most of the analysis in this paper is based on this type of research rather than detailed evaluation or monitoring data.

It is likely that individual projects already have at least a basic monitoring system in place that helps them to track progress. Further research is required to investigate the data availability, but this could be a starting point for gauging whether programs are achieving the goals that are within their remit. For example, Women Building Futures, an organisation based in Alberta that provides pre-trades training and follow-up support to women, tracks several key indicators: number of students who complete the program compared to the number who start the program, number of graduates who are hired directly upon completing the program, number of graduates who are registered as apprentices within 3 months of program completion and number of graduates who successfully complete their first year of technical training within 1 year of start date. Overall, their student employment and apprenticeship success rate is consistently over 90%.<sup>89</sup> Women Building Futures has also commissioned a project that measures social return on investment of the training provided by the organisation. The project tracks job market performance of one class of students over a period of five years and it will provide a longer-term view of the impacts of training. The project should be finalised in early 2009.

Research conducted in Australia recommends that several Key Performance Indicators (KPIs) are implemented to measure progress of women's positions in vocational training and education. The suggested KPIs would track the following<sup>90</sup>:

- The number of women who complete training each year, including the number of qualifications and modules they attain;
- Women's employment outcomes and benefits after training and their satisfaction with training programs, specifically identifying employment outcomes of Aboriginal women; and
- The level of employer adoption of vocational training for the female workforce and their satisfaction with training.

There is some statistical evidence from the United States which suggests that even small-scale interventions aimed at women and employers do work. Dr Mastracci carried out a before-and-after comparison of the populations targeted by programs compared to those that have not and found that the projects have had significant impacts on the employment of women in NTOs. She found that women who had access to projects were 5% to 15% more likely to get jobs in non-traditional fields, compared to the women who did not go through the programs. The analysis also indicates that the results are not temporary, but that interventions had long-lasting impacts.<sup>91</sup>

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<sup>87</sup> Tompkins, 2006, op.cit; correspondence with Tompkins

<sup>88</sup> See Port Jobs, op.cit; Government of Yukon 2005, op.cit; EOC 2005, op.cit

<sup>89</sup> Provided by JudyLynn Archer, Women Building Futures

<sup>90</sup> Security4Women 2007, op.cit

<sup>91</sup> Mastracci 2004, op.cit

## 5. INITIATIVES AIMED AT WOMEN

The findings from various research studies, which have been presented in the sections below, suggest that one of the most important means of challenging negative sex-role perceptions is to empower women and change their own perceptions about their abilities and career choices. Solid training in both technical aspects of work as well as life skills that help them cope with the workplace environment is crucial to ensuring their success in the workplace. As a starting point, trades need to be actively promoted to women so that they become aware of the possibilities related to careers in trades.

### 5.1 Main types of training programs

The Northern Territories Federation of Labour commissioned a comprehensive study in 2006 to review the existing trades training programs aimed at women in Canada to inform training planning in the Northwest Territories and Nunavut.<sup>92</sup> The report developed a typology of training activities and identifies three key types of programs that are aimed at women, as outlined below.

#### 5.1.1 Introductory programs

Introductory programs typically include brief activities aimed at raising awareness about careers in skilled trades among girls and women. The goal of these types of initiatives is to develop an attitude of openness to learning more about trades. Examples of activities include a province-wide kindergarten program in Saskatchewan, ‘techsploration’ mentoring programs which pair up girls with tradeswomen who talk to them about their jobs, high school workshops to involve girls in small projects and have them meet with tradeswomen, and conferences aimed at Grade 11 and 12 girls. Saskatchewan also offers a Grade 11 and 12 credit course which prepares girls to enter trades and technical occupations.

#### 5.1.2 Entry level, exploratory courses

Exploratory courses provide an opportunity for women to try out a variety of trades in order to help them decide which specific trade they want to pursue through further training. For example, exploratory courses can include evening and weekend classes for women to explore trades or home repair workshops to give them confidence about using tools. There are also longer courses that last between 3-6 months. Apart from giving women an opportunity to explore different trades, the courses usually help them to improve academic skills, especially in math and English. Given that the low attainment in these areas is one of the main barriers to entering the trades, the academic component in the programs is very important. Pre-apprenticeship training is an important vehicle for bridging the skills gap, particularly for women whose academic performance tends to lag behind, such as women from low-income backgrounds or Aboriginal women. Lower high school graduation rates among these groups mean that many of them have not even completed the required courses in math, science and technology.<sup>93</sup> Some of the programs also teach life skills that prepare women for the challenges they can expect in the workplace. All of the exploratory courses also include several weeks of on-the-job experience. After the exploratory course is over, women may decide to train further in one of the trades they explored.

#### 5.1.3 Advanced pre-apprenticeship training

These programs are targeted at women who are already committed to a career in trades and who have decided that they would like to pursue an apprenticeship in one specific trade. Students selected into the advanced pre-apprenticeship training are carefully screened to ensure that they are ‘work ready’ and committed to pursuing a career in their chosen trade.

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<sup>92</sup> Tompkins 2006, op.cit

<sup>93</sup> Canadian Apprenticeship Forum 2004, op.cit

Since the programs are aimed at assisting women to enter apprenticeship and therefore college-level technical programs, a more advanced level of math, physics, English and other skills is taught. The advanced pre-apprenticeship programs typically last between 7-10 months and include both first-year theory and hands-on practice in one selected trade. Work placements of several months are included in the training and many students continue working for their placement employer after graduating and registering for apprenticeship training. Programs often include coaching both for students and employers to help students adjust to the workplace, while support is sometimes extended also to the graduates.

## 5.2 Delivering training programs

The study by the Northern Territories Federation of Labour<sup>94</sup> identifies three key mechanisms for delivering training programs: by colleges, by non-governmental organisations (NGOs) and through college/NGO collaboration.

*College programs* are developed and delivered by community colleges or technical institutes. Funding comes from the provincial government as 'core' funding, special government bodies or from large businesses and industrial partners if the program provides special training for a particular industry. Examples of college-only initiatives include Selkirk College and the BC Institute of Technology in British Columbia, and Conestoga College, Georgian College and Algonquin College in Ontario. The programs delivered by colleges tend to be long lasting, as they can secure core funding and well-equipped shop facilities. However, training programs for women can face a risk of being discontinued if the college mandate changes, regardless of the success of the program.

NGOs also develop and deliver training programs. Funding for these programs is varied and can come from special government bodies such as Ontario Women's Directorate, Indian and Northern Affairs, corporate and private donations. Examples include Saskatchewan Indian Institute of Technology, the Bay Area Learning Centre in Burlington, Ontario and Women Building Futures in Alberta. A big advantage of NGO-run programs is that NGOs can see the big picture in keeping women's issues visible and supporting women. The inconsistent funding however can be a significant risk to the longevity of programs. NGOs can also have limited access to shop facilities, which can restrict the range of trades they can include in their programs.

*NGO/College partnerships* could be the best delivery mechanisms for training programs aimed at women. A combination of the NGOs' focus on women and their needs and stability of college resources promises long-term sustainability of good quality programs. Under this model, NGOs develop and have the ownership of the initiative while the delivery is contracted out to the colleges. Programs of this sort enjoy a broader range of funding possibilities, capturing those available to both colleges and NGOs. Examples include the Hypatia Association and Nova Scotia Community College, Yukon Women in Trades and Technology and Yukon College, Newfoundland Women in Resource Development and the College of the North Atlantic, and Saskatchewan Women in Trades and Technology and the Saskatchewan Institute of Applied Science and Technology.

Funding for programs has historically been an issue. There is no single source with a significant amount of money earmarked for programs aimed at women in trades, but a variety of sources needs to be tapped into. It is worth bearing in mind that the priorities of funding agencies often change and it is best to diversify the sources of funding to minimize the risk of disruption. Seeking funding and starting programs is best done in times of economic boom, when employers

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<sup>94</sup> Tompkins 2006, op.cit

are particularly faced with labour shortages and when potential donors are less likely to experience financial difficulties.

### 5.3 Key elements of effective training activities

*Addressing a low level of awareness among women* about careers in trades is the first step towards getting them into training. Passive information about the trades is not sufficient given the wide-reaching implications of sex-role socialization from an early age – women need to be actively targeted. The activities can include specific outreach messages aimed at female job seekers, career counselling in which skilled trades are actively promoted and women-specific promotional materials. Because most apprentices hear about the trades through their informal social networks, which are often not available or receptive to women, strengthening the role of formal educational institutions and job centres in disseminating information to women is important. Generally, more positive advertising of trades both to men and women is necessary to combat the image of trades as dirty occupations for people who cannot make it to university.<sup>95</sup> Some of the most effective outreach techniques to girls and women that were noted in the NTO programs in Oregon and Washington are the use of career fairs and engagement by tradeswomen's advocacy groups to promote trades to girls directly.<sup>96</sup> Marketing campaigns could be used to target women from specific sub-groups. For example, Tradeswomen Inc (TWI), a California-based organisation of women in trades, ran an outreach campaign in 2003 through which it reached 1,893 women, trained 50 women, placed 27 in pre-apprenticeship and apprenticeship programs and provided support services to 103 women. As part of the campaign, it guided a local collaborative of pre-apprenticeship training and social-service providers to utilize bilingual materials in order to increase the number of immigrant women attending TWI's monthly orientation sessions.<sup>97</sup>

*Acquiring a solid set of technical skills through training is a number one priority.* Several studies reiterate that women have to constantly prove themselves at worksites and that they have to be better than men in order to gain professional respect. Women have to be both highly trained in practical, hands-on skills as well as academic skills in math, physics and English. Although most of the women who were consulted through various studies agree that physical strength is more of a perceived, rather than a real, barrier in workplaces, research suggests that physical fitness training may help.<sup>98</sup>

*A careful selection of the 'work ready' program participants is crucial for both the reputation of training programs and perception of women in the workplace.* Employers often judge female apprentices or workers based on their experiences with other female workers. Technical skills of female trainees as well as their work ethic are closely scrutinized by employers and reflect on the reputation of pre-apprenticeship training programs that placed them with employers. Ensuring that women who enter pre-trades programs and subsequently apprenticeship training are truly committed to achieving excellence is therefore critical not only to their personal success, but also to the relationship between the training providers and employers. Women also need to be informed in some detail about the features of the training programs and financial and time commitments that will be required, so that they can make an informed choice whether to enrol. This is particularly true for the programs that are well funded and costs to the participants are small as they may attract candidates interested in experimenting with alternative career paths, rather than the genuinely interested ones.<sup>99</sup>

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<sup>95</sup> Canadian Apprenticeship Forum 2004, op.cit

<sup>96</sup> Matracci 2004 op.cit

<sup>97</sup> Tradeswomen Inc, *Tradeswomen Inc*

<sup>98</sup> Port Jobs, op.cit

<sup>99</sup> Patricia Whyte and Betty Brand interviews in Tompkins 2006, op.cit; JudyLynn Archer interview

*Working with employers to secure apprenticeship positions for women and to ensure that they receive the right type of on-the-job training* is very important. Given that women do not have access to informal, word-of-mouth recruiting, which is the most common vehicle for finding apprenticeships as well as subsequent work, training institutions need to play a major role in helping their students secure apprenticeship positions.<sup>100</sup> Building relationships with employers directly, as demonstrated by the Women Building Futures project in Alberta, is one way of doing it. Employer associations can also be important allies or advocates for change. For example, British Columbia Construction Association ran a pilot project in 2007 during which it placed more than 100 women with employers in its network. Ensuring that women are not assigned irrelevant tasks during apprenticeship training, which leaves them without marketable tradesperson skills at a certified level, should not be just the responsibility of apprentices. Research from the US indicates that the reality of apprenticeship programs is that they often lack the staff to monitor the progression of each apprentice, but there is a need to do more advocacy to employers around exposing apprentices to the right type of training.<sup>101</sup>

*Developing skills to deal with the workplace environment is crucial in preparing women to succeed in the trades environment.* Accomplishing high performance depends also on overcoming cultural barriers and emotional challenges that women encounter in the workplace, not just on technical excellence. A couple of studies note that workplace environments could be changing for the better. Younger men are more receptive to the presence of women in the workplace since they grew up in environments where there is a greater sense of equality between men and women.<sup>102</sup> Increasing the presence of female instructors in trades training also has a beneficial influence as it provides role models not only for women but also prepares men for working with women in the workplace. At the same time younger women have become more assertive and used to competing with men than was the case with previous generations of women.<sup>103</sup> However, younger men are still a minority themselves in the workplace, while school experiences of young women still do not prepare them for dealing with environments in which they are vastly outnumbered and where sexism is overt. Receiving training and support on stress management, communications with co-workers and supervisors, conflict resolution and workplace harassment continues to be very important. This is particularly true for some women from low-income backgrounds who are facing a twin challenge of entering a new work environment, while dealing with personal problems that sometimes accompany poverty such as addiction, violent relationships, etc. Their level of self-confidence will be very low to begin with and helping them acquire additional inner strength to deal with the workplace challenges becomes even more important.<sup>104</sup>

*Coaching on wider life skills to deal with job insecurity due to the contract nature of work* is also important. Some education around income fluctuations during training would be helpful as well as classes or resource recommendations on money management, financial planning and credit counselling. Helping apprentices find placements, especially in the case of lay-offs, would also help retain more women in apprenticeship training.<sup>105</sup>

*Mentoring and role modeling are key components of the support system.* Receiving encouragement and career guidance during training as well as in the post-graduation period is key to building confidence, as these are not usually given in the workplace. Sharing success stories among the peer-group and conducting other positive self-assessment exercises during training helps build a support network that women can rely on once they complete training. The visibility of female role models both during and after training is highlighted as a critical factor for

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<sup>100</sup> Tompkins, 2006, op.cit

<sup>101</sup> Port Jobs, op.cit

<sup>102</sup> Port Jobs, op.cit; Canadian Apprenticeship Forum 2004, op.cit

<sup>103</sup> For example, see interview with T. Pongracz in Tompkins, 2006, op.cit

<sup>104</sup> Based on interview with Bonnie Watt-Malcolm

<sup>105</sup> Port Jobs, op.cit

success of women in trades in various studies.<sup>106</sup> Tradeswomen need to receive mentoring throughout their careers. Establishing mentoring relationships with tradeswomen who have 'made it' demonstrates to trainees that success is possible for women in trades. Given the contractual nature of work, especially in construction, the workplace challenges are likely to surface at different worksites at all stages of women's careers. Being able to access friendly advice outside the workplace continues to be important also at more advanced career stages. Associations and advocacy organisations of tradeswomen play a tremendously important role in facilitating mentoring relationships for women in trades.<sup>107</sup> Selection of mentors is not, however, as straightforward as it may seem. Although the number of experienced tradeswomen is relatively small, not all of them will be suitable for mentoring relationships. Various personality issues and motivations come into play and their gender alone does not automatically qualify them to mentor other women.

*More creativity around training delivery methods can help women from rural areas or on-reserve Aboriginal women to complete training without having to relocate.*<sup>108</sup> A study released in the spring 2008 by the Northern Territories Federation of Labour analyses in some detail the alternative training delivery models for reaching remote communities.<sup>109</sup> The proliferation of Internet-based technologies makes distance learning a reality even in occupations that require a strong hands-on training component such as skilled trades. For example, in the Yukon, the widespread videoconferencing capability in smaller communities makes interactive learning through distance education feasible. Videoconferencing may not be replicable in communities that have a weaker technological infrastructure, but cheaper alternatives that could be used are technologies such as Skype and webcams. Several pilots that have been carried out in northern Canada demonstrated that at least parts of hands-on training can be delivered by distance learning. Yukon College could have some particularly useful experiences to share, since they pioneered use of various computer-based delivery systems. The curriculum suitable for distance education needs to be developed further, but Yukon College has successfully delivered Apprenticeship Preparation courses which could be used as a model elsewhere.

## 5.4 Training programs in practice

Many projects have been run over a number of years and a number of them could be used to illustrate the workings of various factors that have led to positive outcomes. However, given the space limitations of the report, only a couple of them can be presented here. The training projects outlined below are Women Building Futures in Alberta, Sask WITT in Saskatchewan and Trading Up your Future Program in Manitoba.

There are a number of sources that can be consulted regarding the details of other projects (see Appendix A for details). Several publications provide good aggregate overviews of various initiatives. A detailed review of Canadian training programs can be found in a report by the Northern Territories Federation of Labour that was published in 2006.<sup>110</sup> In her book from 2004, Dr Mastracci provides a good overview of the initiatives that have been undertaken in the United States.<sup>111</sup> Similarly, a series of reports by the Equal Opportunities Commission in the UK scan the initiatives in the UK.<sup>112</sup>

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<sup>106</sup> See for example Mastracci 2004, op.cit; Canadian Apprenticeship Forum 2004 op.cit; Scullen op.cit; Government of Yukon 1999 and 2005, op.cit

<sup>107</sup> Mastracci 2004, op.cit

<sup>108</sup> Canadian Apprenticeship Forum 2004, op.cit; Tompkins, Kate *Pre-Trades Training for Northern Women*, 2008

<sup>109</sup> Tompkins, 2008 op.cit

<sup>110</sup> Tompkins, 2006 op.cit

<sup>111</sup> Mastracci 2004, op.cit

<sup>112</sup> [http://83.137.212.42/sitearchive/eoc/Defaultdd02.html#\\_Toc109812374](http://83.137.212.42/sitearchive/eoc/Defaultdd02.html#_Toc109812374) and <http://www.equalityhumanrights.com/en/publicationsandresources/Gender/Pages/Formalinvestigations.aspx>

*Women Building Futures is a good example of a program that offers a broad range of services to women, engages employers effectively and successfully leverages various sources of funding.*

#### **Women Building Futures (WBF), Edmonton, Alberta<sup>113</sup>**

WBF was founded in 1998 and has a construction-industry focus. It is a non-profit organisation that started off by targeting low-income women, but today their graduates come from all walks of life. The program has attracted a lot of interest from women and construction industry employers. Until 2008 the organisation had limited capacity to train more than 60 women per year. Its capacity has been expanded in recent years with the construction of a new training facility. The desired goal is to reach 150 graduates in 2009. The new training facility is the first of its kind in Canada and it includes affordable housing (18 out of 42 housing units are earmarked for single mothers with up to four children).

Several factors have contributed to the WBF's growth and success over the past decade:

##### *Services to women and WBF students:*

- Awareness raising about the opportunities for women in construction through strategic awareness programs.
- Careful screening of training candidates through a three-day-long process to make sure that 'work ready' women are recruited. Work ethic is a key screening component.
- Pre-trades training is offered for seven trades currently, with more to come in 2009.
- Instructors are male and female certified tradespersons.
- The WBF program includes a unique and highly effective Workplace Culture Conditioning program that prepares women for success in the workplace.
- All WBF students write the level five (highest level) apprenticeship entrance exam.
- A scholarship program and other forms of financial support are available to students who are not covered through Alberta Student Finance.
- Female mentors are paired up with graduates.
- All WBF graduates are placed with employers of choice and provided with job retention support for as long as needed.

##### *Partnerships with employers and other stakeholders:*

- WBF works closely with employers to place graduates and also mediates between graduates and employers on an ongoing basis.
- Making a business case for employing women was at the core of the WBF's communications with employers when they were starting out. Its established reputation for producing top-quality tradespeople now speaks for itself and employers seek their graduates directly.
- WBF advocates for employer support activities, for example by advising that childcare provision increases employee retention.
- Good relationships have been established with industry associations and employers to get their support for the program, including funding.
- Partnerships have also been established with local training providers.
- Partnerships are being established with training providers throughout central and northern Alberta, for intended co-delivery of the WBF program starting 2010.

##### *Diversified funding:*

- WBF is drawing on a number of different financial sources from its partnerships as well as its own for-profit business, The Fixit Chicks Inc. Fixit Chicks delivers home renovation and repair workshops. Women pay to attend these workshops and their fees are a source of income for other WBF programs.
- WBF offers its assessment and workplace culture conditioning programs on a fee-for-service basis.

*Programs that are jointly run by Sask WITT and SIAST demonstrate creativity in providing a variety of outreach activities aimed at both women and employers and an effective partnership between an NGO and an educational institution.*

#### **Saskatchewan Women in Trades and Technology (Sask WITT) and Saskatchewan Institute of Applied Science and Technology (SIAST) partnership<sup>114</sup>**

<sup>113</sup> WBF website and correspondence with JudyLynn Archer

Sask WITT is a voluntary advocacy network that was established in the 1980s and recently described by another training provider as a superstar in delivering a range of grassroots activities.<sup>115</sup> SIAST is a leading technical education institution in Saskatchewan, with colleges in four cities.

*Activities aimed at girls and women that are delivered by SIAST through collaboration with Sask WITT:*

- A kindergarten program in 60 schools every year.
- Girls Exploring Trades and Technology (GETT) camps for Grade 7 & 8 girls and GETT alumni activities for high school girls.
- Grade 11 and 12 credit courses on construction technology for women to help bridge young women into the construction workforce.
- Annual conference for Grade 11 and 12 girls, with a focus on skilled trades.
- Two evening exploratory courses in trades and engineering technology.
- A workshop helping women conduct a self-assessment of appropriate occupations.
- Follow up support through one-to-one career counselling based on self-discovery through other programs.
- The focus of the exploratory courses is on developing hands-on skills and exposing women to different trades, so that they can evaluate the best career path for themselves.

Sask WITT also runs some additional activities on its own that are aimed at girls and women:

- Producing videos and other types of promotional materials for schools.
- Annual gathering for Saskatchewan women in trades and technology.

*Sask WITT also works with employers to help prepare workplaces for women, including:*

- Helping employers understand gender issues and develop gender-specific policies.
- Providing representatives for boards and committees and delivering workshops on retention of women.

*Partnership – a key to stability of the programs:*

- Partnering with SIAST has been key to securing cost-effective access to well-equipped learning facilities. This includes access to a variety of shops where students can try out different trades.
- Partnering with SIAST has also helped Sask WITT avoid a range of hidden costs that can build up, such as printing, meeting facilities or other logistical costs such as access to a student cafeteria.
- Core funding for programs is provided by SIAST and it is complemented by other sources of funding that are available to Sask WITT.
- The relationship works to mutual advantage in other ways also. For example, the role models and instructors for the courses run by SIAST come from Sask WITT's network and Sask WITT also often trains the role models.
- As a well-established institution, SIAST provides stable infrastructure and continuity to the program. This is very important to providing long-term support not only to students but also to graduates. Graduates are able to turn to the program instructors and the college when they need help even after they have been in work for some time.

*Trade Up to Your Future program from Manitoba illustrates the importance of post-graduation support*

#### [Trade Up to Your Future, Manitoba](#)

Trade Up to Your Future program has been highlighted as a success story in the report *Workplaces that Work*, which presents a business case for integrating women into the NTOs.<sup>116</sup> The program has been offered in Manitoba since 2000 by two government departments, the Women's Directorate and Manitoba Advanced Education and Training. The program is offered to women on social assistance or employment

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<sup>114</sup> Sask WITT website and correspondence with Valerie Overend

<sup>115</sup> T.Pongracz interview in Tompkins 2006, op.cit

<sup>116</sup> McLean, Denise, *Workplaces that Work*, The Conference Board of Canada, 2003

insurance who have not accessed any other training in the last five years. The program is ten months long and meets the requirements for entry-level positions in NTOs.<sup>117</sup>

A feature of the program that has been highlighted as particularly critical to its success is the two years of post-graduation placement support, because:

- The nature of trades work is contract based and volatile, particularly for small industrial businesses, while new workers may lack confidence to seek a new job effectively.

*Key activities of the program consultants included the following:*

- Working with program participants who had issues looking for a new job.
- Working with participants who faced other difficulties during the placement such as personality conflicts.
- Monitoring the workplace climate in order to avoid placing other female graduates with unfriendly employers. The cost to the employer would be direct, as they would miss out on a negotiable wage subsidy as well as access to skilled workers.

One of the indicators of the success of the program was that many employers started recruiting women directly into permanent jobs without wage subsidy once the program got underway.

## 5.5 Key factors for successful training programs

Success of the training programs depends on both efficient delivery mechanisms and providing the outstanding technical and non-technical components of the program. They have been analysed in some detail in the preceding sections and can be summarized<sup>118</sup> as follows:

- *A variety of programs* aimed at schoolgirls and adult women is required. Programs need to target girls and women at all stages of the career-decision spectrum and include introductory (typically short, awareness-raising events), entry-level (exploratory courses spanning a range of trades) and advanced pre-apprenticeship programs (covering the first-year apprenticeship curriculum in a selected trade).
- *Securing consistent funding* from several sources minimizes the risk of program stoppage in case some of the sources are discontinued. Programs that are delivered by well-funded and established organisations have a better chance of long-term sustainability.
- Programs that are *led by organisations that understand the needs of women and issues that they face* are more likely to keep the needs of women as a top priority.
- *Partnerships between established organisations such as colleges and women's NGOs seem to be a particularly stable model for delivery.*
- *Building relationships with employers* is very important to secure apprenticeship positions, placements for women and effective post-graduation support.
- *The content of pre-apprenticeship programs needs to include hands-on technical training, academic training in math and literacy and non-technical components.* Non-technical training needs to equip women with interpersonal skills to deal with workplace challenges.
- *Establishing mentoring programs and increasing the visibility of female role models* provides an important support mechanism both to trainees and to women at more advanced career stages.

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<sup>117</sup> Tompkins 2006, op.cit

<sup>118</sup> Author's interpretation, based on Tompkins 2006 op.cit and other sources reviewed

- *Technological advances in recent years make it possible to deliver distance-based training to participants in remote areas.* Several pre-apprenticeship distance learning courses have already been delivered by Yukon College and could be further investigated as a potential model.

## 6. INITIATIVES AIMED AT EMPLOYERS AND KEY INFLUENCERS

Positively influencing self-perceptions of women regarding their abilities and career options in NTOs, together with equipping them with outstanding technical skills, helps widen their career choices. However, ensuring that women are highly trained is not sufficient in itself to change gender bias among other actors that influence women's career paths. Research reviewed for the purpose of this study suggests that women cannot single-handedly influence the hiring behaviour of employers, attitudes of career advisors or sexist behaviours in workplaces. Interventions aimed at the labour markets that women are entering are also important to ensure that they get and retain jobs. For example, Dr Mastracci highlights that training initiatives on their own are not sufficient and that "policy interventions that fail to address sex-role socialization and labour-demand structures will not alter patterns of occupational segregation."<sup>119</sup>

There are some indications that academic experiences of women who enter apprenticeship training are usually positive. The instructors and peers often maintain an atmosphere of respect and equality, which stands in a stark contrast to the culture in the workplace. It is not clear why there is such a difference between the attitudes at training institutions and workplaces,<sup>120</sup> but channelling more women into apprenticeship training without addressing the issues in workplaces is not likely to increase long-term retention of women in skilled trades.

The information from various research studies reviewed for the purposes of this paper suggests that a great majority of the initiatives implemented to date have focused on training women for skilled trade occupations. This trend is reflected also in the available literature on various NTO initiatives, a majority of which focuses on training programs. As demonstrated in several examples in the previous sections, some activities that target employers can be rolled into the training initiatives. Training providers often actively nurture relationships with employers to secure placements for their graduates and provide them with post-graduation support. The initiatives that specifically target employers seem to focus on several key areas: changing employers' perceptions of female workers, raising awareness about the existence of gender-related issues in their workplaces and helping employers develop strategies for attracting and retaining women.

### 6.1 Targeting key influencers

Prior to the employment stage, awareness of women's potential to work in trades needs to be raised among key stakeholders who influence women's career paths. Family members, high school teachers, trades instructors and career advisors need to be re-educated about the value of trades as a career in general and as a viable and desirable career option for girls and women. The guidance about trades careers for women should be marketed to career counsellors on an ongoing basis due to a high staff turnover in these positions.<sup>121</sup> In the UK, one of the key recent strategies to combat gender stereotypes at schools was to instruct teachers and counsellors to not only actively offer information on the NTO career choices, but to also challenge choices of

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<sup>119</sup> Mastracci 2004, pg 67, op.cit

<sup>120</sup> Scullen, op.cit

<sup>121</sup> Canadian Apprenticeship Forum 2004, op.cit; Women in Leadership Foundation, *Women in Construction Trades, A Strategic Plan to Promote Women*, 2007

gender-stereotypical subjects and careers.<sup>122</sup> Directly involving employers and industry associations in the promotional activities to women is important to reinforce the message that women are welcome in the trades.<sup>123</sup> It could be expected that similar involvement of employers in promotional activities to educators, counsellors and parents would also be beneficial.

## 6.2 Employer perceptions

There are some indications that employers may not even appreciate the depth of discrimination against women in the workplace. For example, a study carried out in the Northwest Territories and Nunavut indicates that employers have much more optimistic views of their work environments than women do. Employers involved in the research were convinced that sexism does not exist in their workplace and cited company policies to combat sexism as evidence.<sup>124</sup> Findings of an employer survey in the Yukon are another example of disparate views held by women and employers. 77% of the surveyed employers thought that the prevalent word-of-mouth recruitment practice is not a barrier to women. More encouragingly however, employers seem to be open to the idea of increasing the number of female workers. 83% of respondents in the same study in the Yukon confirmed that programs designed to bring more women into trades would be helpful to their business.<sup>125</sup> Several employers involved in a small research project in Alberta went even further, suggesting that they are better positioned to provide the necessary support to women in the trades than the government-led programs.<sup>126</sup>

## 6.3 Motivating employers to introduce changes

Introducing changes in the workplace requires effort on the part of employers, even if they are supported by other governmental and non-governmental organisations. In order to expend resources that they could invest elsewhere, employers need to see the economic benefits of having a more diverse workforce that includes women.<sup>127</sup> There is a perception that employers have become more open to the idea of employing women in skilled trades in recent years due to current and expected skills shortages,<sup>128</sup> which made it an economic necessity.

Historically, the shortages of skilled labour have helped to catapult women into the workplace, the starkest examples being the two World Wars. Serious skills shortages in the trades that are forecast to occur in various industries in the near future seem like an ideal opportunity to promote a greater participation of women in the trades. Conversely, employers' enthusiasm in engaging women seems to peter out during the economic downturns.<sup>129</sup> There is also evidence that once they start hiring women, employers realise the benefits and keep on employing more.<sup>130</sup>

The business case for employing women, not just equality considerations, needs to be marketed to employers more actively to help them recognise that women are valuable assets in the workplace.<sup>131</sup> Several existing publications can be drawn on to support such activities. There are at least four that have been prepared in Canada: 'Workplaces that Work' by the Conference Board of Canada (2003); 'Increasing Women in SETT: The Business Case' by the Women in

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<sup>122</sup> Equal Opportunities Commission 2006, op.cit

<sup>123</sup> Women in Leadership Foundation, op.cit

<sup>124</sup> Tompkins 2005, op.cit

<sup>125</sup> Government of Yukon 2005, op.cit

<sup>126</sup> Watt-Malcolm 2005, op.cit

<sup>127</sup> Canadian Coalition of Women in Engineering, Science, Trades and Technology, *Women in SETT: Building Communities*, 2004; The Hypatia Association, *In the Picture ... a future with diversity in trades, science and technology Volume Three*, 2006

<sup>128</sup> Based on interviews with Archer, Overend, Brodersen and Fulton, Watt-Malcolm

<sup>129</sup> Braundy, op.cit

<sup>130</sup> See Women Building Futures outline in Section 5

<sup>131</sup> Equal Opportunities Commission 2006, op.cit

Science, Engineering, Trades and Technology (2005); and the 'Return on Apprenticeship Training Investment' by the Canadian Apprenticeship Forum (2006). The last publication does not specifically deal with the issue of training women, but it is still useful for dispelling erroneous assumptions on the part of employers that they lose out from providing apprenticeships. A publication by the Hypatia Association, 'In the Picture ... a Future with Diversity in Trades, Science and Technology, Volume Three' (2006), provides a thorough overview of the concept of diversity in the workplace. Another useful source is a study called 'Methods and Indicators for Measuring Costs and Benefits of Diversity Policies in Enterprises' (2003), which was prepared for the European Commission by the UK-based Centre for Strategy and Evaluation Services.

## 6.4 Recognising heterogeneity among employers

Effective initiatives should also take into account significant differences that exist among employers. The size of enterprises will influence the resources that they have at their disposal to promote change.

*The Hypatia Association developed a program aimed specifically at small and medium-size enterprises, recognizing that they face very different challenges from large organisations.*

### Women Unlimited Program, The Hypatia Association, Nova Scotia<sup>132</sup>

The Hypatia Association is piloting a three-year Women Unlimited program, which is targeted at both women and employers. The services offered to women include a pro-active outreach strategy that focuses on the recruitment of women to non-traditional training and employment, a 12-week career exploration program and support for full participation of women in training.

The Hypatia Association has entered into partnership with three large employers and several small and medium-size enterprises (SMEs) to identify workplace practices that have an impact on women and to develop strategies to respond to the issues. The main output of the employer-oriented component of the Women Unlimited program will be the resource guide aimed at employers which will include a compilation of methodologies and strategies developed during the project. The guide should be available at the Hypatia Association's website at the end of 2008.

The Hypatia Association realized early in the project that the needs of large and small employers are very different. Large organisations typically have many human resources managers who can focus almost exclusively on recruitment, training and retention activities, which is very different from the situation in SMEs which face specific challenges:

- There are no human resources departments and the owners of the companies are often directly in charge of recruitment and training of their staff.
- Resources and time available to devote to developing the initiatives to recruit and retain women are much more scarce than in large companies.

Recognising the unique challenges that SMEs faced, the Hypatia Association adopted the following approach:

- It organised a series of half-day workshops, each involving several employers. Challenges facing SMEs when recruiting and retaining women in non-traditional occupations in trades and technology were discussed.
- Through group discussion, participants generated some ideas about activities that SMEs can undertake to attract and support more women.
- Hypatia's subsequent step was to work with three SMEs to test a workplace checklist specifically developed for organisations of similar size.
- In a closely related initiative, the Hypatia Association is facilitating focus groups with women currently working in trades and technology, to learn from their experiences and incorporate their suggestions

<sup>132</sup> Armour, Nan *Women Unlimited: Meeting the Needs of Tradeswomen and Employers in Nova Scotia*, The Hypatia Association, 2008

into the workplace strategies.

- The resource guide, which will capture key methodologies and strategies that the Hypatia Association learned during this process, should become available on their website towards the end of 2008.<sup>133</sup>

## 6.5 Influencing recruitment and training practices

In order to get jobs in skilled trades, women need support to access the word-of-mouth networks, which are almost exclusively 'men only' and very difficult for women to break into early in their careers.<sup>134</sup> The relationships that training institutions establish with employers can act as a sort of a 'word of mouth' network for women. More information about the cooperation between employers and training organisations has been provided in Section 5. As demonstrated by the example of the British Columbia Construction Association (BCCA) below, industry associations can also play a pivotal role in securing placements for women by leveraging relationships that they have with employers. Apart from industry associations, other organisations with links to employers, such as sector councils, could also potentially contribute to placement efforts in a similar fashion.

Getting placements for women is, however, just a start and the BCCA example illustrates that further cooperation from employers in the area of training needs to be secured. Employers need to support the idea that female workers should be trained to progress beyond entry-level positions or, in the case of female apprentices, supported to reach certified tradesperson status. In the absence of further training, recruiting women could run a risk of becoming just a quota-filling act with women performing minor roles and eventually exiting the trades.

*A pilot project that was run by the BCCA in 2007-2008 demonstrates well the potential of industry associations to champion women in trades, engage employers directly and leverage relationships with related organisations. It also demonstrates the importance of follow-up activities and training to career progression and retention.*

### British Columbia Construction Association (BCCA), STEP for Women Pilot Project 2007-2008<sup>135</sup>

BCCA's pilot project Skilled Trades Employment for Women (STEP for W) was designed to promote and increase employment of women in the construction industry and increase the retention rate of those women. During the pilot year, BCCA placed more than 100 women with employers across BC, mostly at the entry-level positions but also some certified tradespersons.

*The existing infrastructure and industry connections played a key role:*

- BCCA leveraged its infrastructure of four offices across BC and their field staff known as Job Mentors who were seconded part time to the STEP for W project.
- Job Mentors monitored labour needs of employers and connected them with pre-screened female job candidates.
- Job Mentors were in an ideal position to promote women to employers because of their pre-existing relationship with employers and their own background in the trades, which gave them credibility with employers.

*Careful screening of candidates to ensure a good match with the employers' needs:*

- Some of the female job candidates were identified by the STEP for W staff and referred to the Job Mentors. Job mentors were also actively looking for candidates by establishing links with schools, colleges and employment agencies.
- Job Mentors would take the female candidates through a five-step assessment process. The detailed assessment ensured that there was a good fit between employers and candidates.

<sup>133</sup> Armour, Nan op.cit

<sup>134</sup> See section 3 for more detailed references about this subject

<sup>135</sup> British Columbia Construction Association (BCCA), *STEP for Women: Pilot Year, Final Report and Evaluation*, 2008

*Ongoing on-site and off-site support were key to retention:*

- Following the placement, Job Mentors worked with employers to identify an on-site 'Buddy' for each woman, to ensure that they had support in the workplace.
- Job Mentors remained involved also after the training options were identified, maintaining dialogue with employers, site 'Buddies' and women to monitor progress. Apart from regular follow-ups, Job Mentors provided ad-hoc mediation in cases where miscommunication in the workplace arose.
- Off-site mentoring relationships with senior tradeswomen were also piloted, to provide additional encouragement and advice.

*Ensuring that women were involved in appropriate training was key to career progression and retention:*

- Job Mentors worked with both women and employers to identify the most suitable form of training for each woman. Several pre-employment and post-employment training options were considered, including apprenticeship.

*Building partnerships with related organisations:*

- STEP for W interacted with institutions such as the Immigrant Skilled Trades Employment Program which facilitates employment opportunities for landed residents, European Union Skilled Trades Employment Program which facilitates BC construction industry employment opportunities for European tradespeople and the Vancouver Aboriginal Skills Employment Partnership which facilitates construction industry employment for Aboriginal people.<sup>136</sup> More than 40% of women recruited through STEP for W were Aboriginal.

## 6.6 Influencing retention activities

*The workplace transformation to a more woman-friendly environment is a long process that needs to be implemented over time.* Shifts in behaviours and practices are required across several dimensions in workplaces to ensure that women remain in trades jobs once they get there. A deep transformation of workplace culture as well as introduction of some more family-friendly practices and more appropriate physical facilities at worksites requires a change of mindset across all levels of organisation. To start with, many employers may not be aware that gender-related issues exist in their workplaces.<sup>137</sup> Only after they recognize that there is a problem, can the work of reviewing the existing human resources practices and implementing activities to address them begin.

*Securing commitment from the leadership in the workplace is only the first step, as the site superintendents, foremen and workers also need to change their behaviour towards female colleagues.* Women report that even small cultural changes can make a big difference to the way women are treated. Sometimes it is enough for one man to stand up for them to change the atmosphere in the workplace, but they do this rarely of their own accord.<sup>138</sup> According to the Canadian Construction Council, harassment and anti-discrimination policies are rarely implemented in the workplace, unless they are supported and modeled by management.<sup>139</sup> Leadership endorsement alone is however not going to be sufficient to change behaviours at the worksites and workers need to be directly involved in the process. Innovative, cost-effective ways for sensitizing male workers need to be used. Delivering gender awareness training to a large number of workers that would require them to take some time off would be quite costly to employers.<sup>140</sup>

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<sup>136</sup> BCCA, op.cit

<sup>137</sup> Government of Yukon 2005, op.cit; Overend, Valerie; Emerson, Carolyn; Hollett, Susan *Welcoming Women into Trades and Technology Workplaces – A Checklist of Strategies and Employer Workshop*, 2008

<sup>138</sup> Scullen, op.cit

<sup>139</sup> Ibid

<sup>140</sup> Based on the interview with Watt-Malcolm

Addressing the lack of general skills among certified male tradespersons on how to deal with new workers can also ease integration of women. Apart from the attitudes, problems in the workplace can also stem from poor preparedness of certified tradespersons to supervise apprentices. This is a problem for both male and female trainees but, combined with sexism, it further reduces the chances of women to receive appropriate training. Training the certified tradespersons to build up mentoring skills and paying them a higher hourly rate in recognition of their additional role as trainers could help the success of both male and female apprentices.<sup>141</sup>

The importance of continuing mentoring and role modeling for women throughout their careers is covered in some detail in Section 5. It is also worth reiterating here the importance of continuing role modeling and mentoring for women at later stages in their careers, not only during training.

## 6.7 Delivering employer-oriented initiatives

The literature on models for delivering strategies targeted at workplaces is less well consolidated, compared to the research that analyses training activities. The underlying theme in various sources, however, is the need for different organisations to work together in order to effect change. While the ultimate decision to open up workplaces to women lies with employers, they often lack insights about the gender equality issues as well as tools to implement the change. Collaboration between a range of labour market actors is required, including:

- NGOs that actively promote women in skilled trades fulfill several important roles. They have a close insight into the gender equality issues and access to tools and other expertise on implementing change in the workplace. They can assist employers to transform their human resources practices and provide a support and mentoring network for women.<sup>142</sup>
- *Nurturing relationships with gender-equality champions in industry associations*<sup>143</sup> and similar organisations such as sector councils can provide a gateway to placements and help to further influence employer workplace practices.
- *Unions* can be powerful allies as they exercise significant power in negotiating working conditions. The retention rates of tradeswomen and female apprentices are generally better at unionized sites than at non-unionised ones. Even when the workplace environment is hostile, women often enjoy better protection, equal wages and support from the unions during disputes.<sup>144</sup> Unions could potentially help women in other ways by exploring how family-friendly practices related to childcare, work hours and family leave can be incorporated. Examining the possibility of proportional layoff to ensure that women are not the first to be let go during economic downturns is also something that unions could negotiate.<sup>145</sup> Unions can play an important role in closing the gender pay gap. The wages are negotiated under collective agreements between unions and employers and allow very little room for direct negotiation between employers and workers. For example, research from Saskatchewan indicates that women who are union members have wage rates that are 10% lower than the average rates for unionized men. In comparison, the wage differential for non-union men and women is 24%.<sup>146</sup> It has to be remembered however, that the attitude of the unions will also be driven by their own perceptions of gender-based roles, which do not necessarily have to be supportive of women's involvement in the trades.<sup>147</sup>

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<sup>141</sup> Port Jobs op.cit

<sup>142</sup> See WinSETT example above

<sup>143</sup> See BCCA example above

<sup>144</sup> Canadian Apprenticeship Forum 2004, op.cit

<sup>145</sup> Braundy, op.cit

<sup>146</sup> Scullen, op.cit

<sup>147</sup> Tompkins 2006, op.cit

- *Training institutions* are critical to retention of women, as discussed in some detail in Section 5. In addition to their ongoing relationships with their graduates, they can also mediate between employers and graduates, helping them adjust to each other.<sup>148</sup>

## 6.8 Employer initiatives in practice

The research and examples outlined in the sections below indicate that initiatives aimed at influencing and helping employers typically include some or all of the following elements:

- Guidelines and checklists to help employers assess their current gender-equity practices and develop appropriate policies;
- Workshops aimed at raising awareness of employers about gender-equity issues and helping them think through strategies to address them; and
- Direct technical assistance to employers to help them implement gender-equity strategies and specific actions.

Guidelines and workshops seem to be the most commonly used tools to date, but they do not seem to be sufficient to secure concrete, follow-up actions in the workplace. There seems to have been less adoption of the technical assistance services, which are overall a more effective way of ensuring that the changes are implemented in the workplace. Several examples of different types of initiatives are outlined in the sections below. In addition, Section 5 outlines examples of interactions between training institutions and employers in helping to retain women.

*The example of the International Longshoremen Association in Halifax illustrates that it is possible to make traditionally male-dominated organisations welcoming to women. It also shows that the change is gradual, requiring involvement by several partners to take root.*

### The International Longshoremen Association (ILA), Halifax, Nova Scotia<sup>149</sup>

Local 269 of the ILA operated in Halifax for 92 years before it accepted its first female member in 2000. Between then and 2003, both Local 269 and Halifax Employers Association have successfully attracted and retained a significant number of women into the longshore industry.

The successful integration of women into the longshore industry was a result of a long-term approach and careful planning:

- Several key partners worked together for two years prior to introducing women to the workplace to make sure that the environment was welcoming.
- The preparatory work was a joint effort by the employers, consultants and union representatives.
- Workplace practices, including cultural barriers, were reviewed and modified.
- Training programs were put in place.

Pairing up supply-side initiatives that encouraged women to consider and train for longshore occupations, with demand-side initiatives that created workplaces where women succeeded and remained, was considered key to success.

*The Canadian Coalition of Women in Engineering, Science, Trades and Technology (CCWESTT) is partnering with various stakeholders to strengthen human resources practices to recruit and retain more women in the skilled trades. Through its Women in Science, Engineering, Trades and*

<sup>148</sup> See WBF example in Section 5

<sup>149</sup> Adapted from McLean, op.cit, reflecting the situation as of 2003

*Technology (WinSETT) initiative, CCWESTT is planning to establish the Canadian Centre for Women in SETT. As an example of the expertise that can be provided by the Centre, in 2007-2008 WinSETT developed and piloted services aimed at helping employers create environments welcoming to women.*

#### WinSETT employer workshops and checklists, 2007-2008 pilots<sup>150</sup>

In 2007-2008, the WinSETT initiative piloted a set of resources for employers to help them strengthen the recruitment and retention of women in SETT fields. The pilots were aimed at four sectors: construction, post-secondary institutions, oil and gas, and information technology. The construction sector pilot addressed specifically strategies for attraction and retention of tradeswomen.

##### *Key resources that were developed for the pilot:*

- WinSETT prepared and piloted two workshops in the construction sector. The workshops provided information to the employers on strategies for supporting women in the workplace.
- A specific tool that was developed and used in the workshops was a compact checklist of around 80 pages of strategies for employers. The checklist was modeled on a similar product that was prepared in the 1990s by the Women in Trades and Technology National Network (WITT NN), which unfortunately no longer exists.
- The purpose of the checklist is threefold: to raise awareness of employers about gender issues, help them evaluate their current practices and guide them in developing their own action plans.
- The checklist includes current research and effective practices spanning the topics of recruitment, orientation, retention, career development, training, and health and safety.
- The checklist was used during the workshops to guide employers through the process of assessing their current practices and thinking through potential future actions.

##### *Key learning outcomes from the workshops:*

- Employers lack the recognition that women face unique challenges in non-traditional workplaces or that there is a need to specifically address gender issues.
- Employers lack the expertise to deal with gender issues.
- Partnering with local organisations involved in promoting women in trades is important to get access to further resources, including role models that employers can use. The relationship can be beneficial also to local organisations through possible support from employers for their activities.
- It is important that the workshop facilitators have the trades background to gain credibility with employers.

##### *Future plans:*

- WinSETT is planning to launch its workshops nationally in the near future through the Canadian WinSETT Centre.
- Further technical consultancy to employers is also planned, to ensure that the employers' action plans are implemented in the workplace. Several employers during the pilot workshops indicated that they would be interested in the follow-up support to help them implement planned activities.

*Hard Hatted Women (HHW), a non-governmental organisation from Cleveland, Ohio, delivers various training and policy initiatives to ensure that women and other under-represented populations have access to skilled careers in the construction industry. HHW works directly with employers throughout the construction project cycle to help them implement systems that create more inclusive and diverse workplaces.*

#### Hard Hatted Women (HHW), Cleveland, Ohio, Partnership Model

Through its Partnership Model, HHW assists contractors in the construction sector to recruit and retain a diverse workforce on large-scale construction projects where workforce diversity is a requirement.

##### *The HHW services span the full project cycle:*

- At the bidding stage, HHW participates in the pre-bid meetings held by the construction management

<sup>150</sup> Overend et. al 2008, op.cit and Overend correspondence

team and project owner to inform contractors about the diversity goals and strategies, assist contractors to include workforce participation goals in bid documents and provide contractors with best practice standards.

- Ongoing support services include monitoring of workforce participation through regular site visits by HHW staff. Regular reports are completed and submitted to the project owner. HHW will work with contractors who are not compliant with diversity goals and help them resolve the issues.
- HHW is present at all progress meetings to address workforce issues and it assists contractors with recruitment and retention efforts. HHW also delivers sexual harassment prevention training.

*Partnership between key stakeholders is considered key to success:*

- Establishing Diversity Oversight Councils on projects is a critical component of the Partnership Model as it serves as a mechanism for creating a unified vision for participation and fair treatment of women and other minority groups.
- The Council also provides a forum for stakeholders to partner on implementation strategies which directly support the achievement of project goals.
- HHW recommends inclusion of a broad range of stakeholders including: project owner, primary contractors who have authority to hire, unions, community-based organisations, government agencies, educational institutions and any other organisations that have a key interest in diversity.

## 6.9 Key success factors for initiatives targeting employers and key influencers<sup>151</sup>

- *The image of skilled trades as a worthy career option needs to be improved in the general community, not only among young people. The idea that women can and should be working in skilled trades needs to be actively marketed to individuals who influence women's career decisions such as parents, educators and career advisors. Educators and career advisors need to be provided with tools that can help them promote the trades to women.*
- *A business case for employing women needs to be marketed to employers. Profitability, rather than equity considerations, is a key driver for employers. In order to invest money and effort into attracting and retaining women, employers need to understand the positive financial impact of having more women in the workplace. Several resources have already been developed for this purpose.*
- *A long-term approach in the workplace is needed. It seems that many employers have not yet recognized that gender-specific barriers are an issue and more awareness raising is necessary among such employers. The next step would involve reviewing the existing human resources practices and developing a plan of action on how to address them. Implementing change in the workplace is the most challenging part as it requires long-term investment, expertise and persistence.*
- *Change needs to happen at all organisational levels. Acceptance by top-level management provides a mandate for instigating change, but the openness to the idea of diversifying the workforce needs to be cultivated also at the shop floor/worksite level among superintendents, foremen and workers.*
- *A variety of tools is required to move workplaces through the cycle of problem recognition, planning and action. Distributing toolkits and running awareness-raising and planning workshops are useful methods to initiate change. However, on the ground, technical assistance is needed to ensure that activities are implemented in workplaces.*

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<sup>151</sup> Based on the author's interpretation of research findings presented in the previous sections

- *Initiatives need to be tailored to accommodate differences that exist between large and small organisations.* The size of organisations determines the scale of resources available to them to address gender-related barriers, with smaller companies not having in place human resource specialists who could take ownership of the process.
- *A concerted effort encompassing all major players that influence participation of women in skilled trades employment is necessary to mainstream women into the skilled trades.* Employers cannot and will not introduce changes on their own. Educators, labour unions and community-based organisations all have a role to play in promoting and supporting change in the workplace.

## 7. EXAMPLES OF PUBLIC POLICY INTERVENTIONS AND OUTCOMES

There are many different views about the optimal extent of policy interventions aimed at redressing gender imbalances in labour markets. At one end of the spectrum are the proponents of the ‘do nothing’ approach, the basic premise being that there are always winners and losers in the labour market and that the government should not interfere. At the other end could be the proponents of strict affirmative action legislation, combined with other educational and labour market supports. Given that men and women are socialized into gender-specific roles and occupations from early childhood, it is highly improbable that market forces alone will correct gender bias in labour markets. Dr Mastracci, for example, argues that policy interventions have an important role to play in accelerating positive changes for women in skilled trades to bring their status in line with wider social and cultural trends that have made gender equality an important priority.<sup>152</sup> The cases outlined in the sections below present several examples of possible policy actions by governments.

### 7.1 Employment equity legislation

In Canada, the Employment Equity Act (EEA) implemented in 1995 and reviewed in 2002 superseded the earlier employment equality legislation. The purpose of the EEA was to identify and remove systemic barriers in employment practices and implement measures to improve representation of equity group members. The equity groups include women, visible minorities, Aboriginal people and people with disabilities. Employment equity is mainly pursued via voluntary policies that aim to encourage employers to adopt equity measures and instances of mandatory equity have been rare in Canada.<sup>153</sup>

Equity legislation can have mixed effects. Voluntary employment equity legislation gives a lot of leeway to employers to do as little as possible. Mandatory legislation could give more credibility to the concept of employment equity and bring more women into the workplace through concrete targets and milestones.<sup>154</sup> For example, Quebec passed legislation in 1993 that aimed to increase the representation of women in the construction sector. Between 1993 and 2001, the number of women in construction grew from 185 to 616.<sup>155</sup> Another example is the case of the Vancouver Island Highway project in BC in the mid-1990s, which established quotas for equity groups. By the end of the project women represented 6.5% of the workforce, which was a considerable

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<sup>152</sup> Mastracci 2004, op.cit, consult also for further discussion on the role of policy interventions in labour markets

<sup>153</sup> Scullen, op.cit

<sup>154</sup> Scullen, op.cit; Port Jobs, op.cit; Mastracci 2004, op.cit

<sup>155</sup> Scullen, op.cit

success given that the representation of equity groups in highway construction was even lower than in building construction.<sup>156</sup>

Mandatory equity legislation is, however, unpopular with employers. For example, attempts in Saskatchewan in 1996 to change legislation from voluntary to mandatory were quashed even though it was proposed to include only larger employers, while smaller companies would continue to comply only on a voluntary basis. Mandatory affirmative action legislation was more widely used in the United States, but there has been a change in climate towards positive discrimination there, also.<sup>157</sup> Whether the legislation is mandatory or voluntary, it carries risks of women being perceived as just filling quotas and generating resentment among co-workers.<sup>158</sup> The rush to reach equity goals could also lead to recruitment of women into training or work who are not genuinely interested in pursuing careers in the trades,<sup>159</sup> further reinforcing the old stereotypes about women not being suited for the trades. A study from the US suggests that equity actions can also lead to female apprentices being recruited to fill quotas for women, while certified female tradespersons are the first ones to be laid off.<sup>160</sup> Any equity legislation would also require appropriate enforcement mechanisms to ensure that women are properly trained and integrated in the workplace,<sup>161</sup> rather than just brought in to fill in the numbers and then left at the bottom of the occupational pyramid.

## 7.2 Leading the change

Governments can use some other instruments apart from equity legislation to lead change in integrating women in skilled trades. The government can promote gender equality in the trades by putting it at the top of agendas in its training and employment policies to raise the profile of the issue in policy and public debates and to lead substantive policy changes. If gender equality is made a clear priority, long-term funding can be secured from government budgets, enabling continuity of programs aimed at training women or assisting employers. Research carried out with employers from non-traditional industries in the UK, indicates that they look to the government to supply qualified workers, help manage change in the workplace, publicise the rewards of working in their industries to dispel negative images that deter women, and provide quality childcare so that they can employ women without worrying that their business will suffer from frequent unscheduled absences.<sup>162</sup> Government can also provide leadership to bring together different segments of the labour market and beyond that do not communicate in the absence of established networks such as employers, unions, community-based organisations and public-sector institutions.<sup>163</sup> The examples below from the US and UK illustrate the importance of government leadership in promoting change at the ground level.

In the US, two types of programs aimed at increasing representation of women in NTOs have been financed from the federal budget. Nontraditional Employment for Women (NEW) program lasted for four years in the 1990s and it mainly targeted low-income women through educational programs. The funding was a financial incentive created under the Nontraditional Employment for Women Act (NEW) in 1991. NEW grants were awarded to state governments and their key purpose was to provide seed money that would stimulate other similar initiatives at federal, state and local levels. Around \$6 million were invested in NEW initiatives. Women in Apprenticeship and Non-Traditional Occupations (WANTO) program was launched in 1992 and it continues to

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<sup>156</sup> Cohen Griffith, Marjorie and Braid, Kate, *Training and Equity Initiatives on the British Columbia Vancouver Island Highway Project: A Model For Large-Scale Construction Projects*, Labour Studies Journal, 2000

<sup>157</sup> Mastracci 2004, op.cit

<sup>158</sup> Canadian Apprenticeship Forum 2004, op.cit; Port Jobs, op.cit

<sup>159</sup> Port Jobs, op.cit

<sup>160</sup> Ibid

<sup>161</sup> Cohen and Braid, op.cit, as an example of the equity initiative that successfully integrated training elements

<sup>162</sup> Turgoose et.al, op.cit

<sup>163</sup> Mastracci 2004, op.cit

date through a modest appropriation in the federal budget at around \$1 million annually. The funding through WANTO is directed at offering technical assistance to employers and unions to integrate more women into their ranks. WANTO grants are typically awarded to community-based, employer and union organisations.<sup>164</sup>

*Two very different cases of NEW grants are summarized below, one in Texas and the other in Wisconsin. They illustrate the importance of political commitment and political leadership commitment to institutionalizing activities aimed to promote women in NTOs.*

*The project in Texas was a training program that successfully placed women in NTOs while the NEW funding lasted. However, the project illustrates that the lack of political support can be detrimental to long-term success.*

#### Technology education for women program, Texas, United States<sup>165</sup>

One of the NEW grants was awarded to the Texas Department of Commerce to run a program called the Technical Education and Ascending Self-Empowerment Project (TEAS) in Waco, Texas. The program was delivered through an organisation of local government in Texas and a local technical college in Waco. The organisation of local governments delivered an intensive fourteen-week pre-training program, followed by a training program in high-technology occupations at the college. The target population was low-income women and they were trained for entry-level occupations in information technology.

*The program has achieved some demonstrable successes:*

- It has helped 85 low-income women enter NTOs. Apart from tuition, additional childcare, transportation and financial assistance were provided to participants.
- The program had significant positive wider effects on the college environment:
  - it has helped gender diversification of the student body in the college and it has sensitized the college staff and students to gender issues in NTOs.
  - apart from running the program, the college also opened a Women's Resource Centre, which provided mentoring and various forms of counselling to women. It became a permanent feature at the university, used by both male and female students.
- A researcher from the University of North Texas conducted a return-on-investment analysis of the project, concluding that the positive economic impacts on the local community surpassed the initial investment in a little less than two years.

*The success of the program was, however, short lived:*

- Although the wider positive effects on the college environment remain, the program was not continued beyond the NEW funding period.
- The seed money given to the state of Texas from the federal budget did not spur longer-term action within the state on the issue of women's participation in NTOs.
- The lack of interest from the state government to continue the program or adapt its training service to reflect the goals of the program meant that the issue of women in NTOs largely disappeared from the political landscape.

*The example below from Wisconsin demonstrates how effective political leadership can ensure that the initiatives are maintained in the long term. The project was a demand-side intervention aimed at helping job-center staff place and support more women in NTOs.*

<sup>164</sup> Mastracci 2004 op.cit and Mastracci, *The 'Institutions' in Institutionalization: Programs for Women in Highly Skilled, High-Wage Occupations*, Working USA, Vol.6, 2003

<sup>165</sup> Adapted from Mastracci 2003 and 2004, op.cit

Wisconsin-Madison, The NTO Toolkit for job centres, United States<sup>166</sup>

Wisconsin's Department of Workforce Development received the NEW grant to initiate a program designed to help job centres inform and advise women on NTO careers. The NTO Toolkit for job centers was one of the main outputs of the program.

The content of the program effectively targeted three key audiences:

- It sought to change the behaviour of staff at the job centers to refer more women into NTOs, by providing information and performance incentives.
- It targeted women by providing job descriptions and earning information.
- It advised employers, who made gender-stereotyped requests for workforce, about the benefits of hiring women.

*After the initial NEW grant, the project was taken further by the state government, with a dedicated budget line item in the state budget, providing continuous support for it (as of 2004, when the source was published):*

- The initial WANTO grant was a catalyst for a range of follow-up activities by the Wisconsin government. For example, in 2004, the NTO Technical Assistance Team was put in place as an advisory body to the government's Division of Workforce Solutions on NTOs for men and women.
- Getting acceptance at a high political level was key to the continuing success of the program.

*In addition to strong political leadership, a broad-based partnership of organisations from various backgrounds was one of the main success factors :*

- The model development work was outsourced to the Young Women's Christian Association (YWCA) of Greater Milwaukee, who prepared it in the form of the NTO Tool Kit.
- In addition to YWCA, the state partnered with a broad range of other organisations such as private industry councils, technical colleges and non-profit organisations to test and deliver the model state-wide.
- A steering committee which oversaw the state-wide implementation of the toolkit was formed, including representatives from various government and non-government organisations.

*A Canadian report<sup>167</sup> also illustrates the importance of government commitment and funding to the success of the programs as demonstrated by the WIST programs in Ontario.*

WIST programs, Ontario<sup>168</sup>

As of 2003, more than 500 women have been trained to enter NTOs through Ontario's Women in Skilled Trades (WIST) and Information Technology Training for Women (ITTW) pilot programs.

- The program consists of 30 weeks classroom training based on a curriculum specific to female students, followed by 20 weeks of placements with local employers for on-the-job experience.
- Educational activities have also been undertaken with employers to assist them in developing a positive work environment for the students, while graduates were mentored to further ensure retention.
- Partnership has been the foundation of programs with government, community colleges, community-based organisations and employers working together.
- Ontario Women's Directorate reports that since 2003, Ontario has provided \$6.1 million to train nearly 600 women in the skilled trades. In 2008, the government of Ontario announced an investment of \$1.5m towards training of low-income women in skilled trades under the WIST program.

*A comprehensive two-year investigation into occupational segregation and apprenticeship was carried out by the government in the UK in recent years. It illustrates that government can play a major role in driving change by bringing the issue to the forefront of policy agendas, encouraging*

<sup>166</sup> Adapted from Mastracci, 2003 and 2004, op.cit

<sup>167</sup> McLean 2003, op.cit

<sup>168</sup> <http://www.citizenship.gov.on.ca/owd/english/news/2008/n20080306.shtml>

cooperation between existing, unconnected initiatives, and securing support of several key partners who have the capacity to promote change.

#### Investigation into training and workplace segregation, United Kingdom<sup>169</sup>

In the UK, the Equal Opportunities Commission (EOC)<sup>170</sup> launched a detailed investigation into occupational segregation and apprenticeship in 2003. The backdrop of a persistent gender pay gap and skills shortages across a number of non-traditional sectors spurred a two-year investigation by the EOC.

##### *Key findings of the investigation:*

- The school system was failing young men and women who might have chosen vocational training routes, had they been encouraged to do so.
- Young women and girls from disadvantaged socio-economic backgrounds were particularly let down since they were generally channelled into lower-paid jobs, unlike young men. There were not enough opportunities for young people to try out the trades and no information on pay differences was publicly provided to help them make informed choices.
- Apprenticeship training schemes were failing to support atypical recruits, with a high level of gender segregation evident across apprenticeships.
- Apprenticeship frameworks were inflexible, offered on a full-time basis only, which compounded barriers to women with children. A relatively large number of women who were seeking to train in non-traditional trades could not qualify for entry since apprenticeships were available only to those below the age of 25.
- Many employers were reluctant to change the traditional work culture and practices, despite recognizing the benefits of a more diverse workforce.
- The efforts to increase diversity in NTOs were insufficiently interconnected and sustained, even though many initiatives were undertaken by the government and other actors.

##### *The investigation brought the issue of occupational segregation to the spotlight:*

- Job segregation has moved up the agenda and it now occupies a central role in the fight to close the gender pay gap, address skills shortages and improve productivity.
- The investigation has triggered a high level of interest, support and action from within the government and more widely.

##### *Key impacts of the investigation in specific areas (as of 2006):*

- The investigation called for action in four key areas: education, training, employment and government
- *In education*, the Department of Education and Skills (DfES) is for the first time developing an agenda to challenge stereotypes and open up wider choices for young people. All new policy proposals from the DfES highlight challenging gender stereotypes as a key aim.
- *In training*, apart from DfES, several other training agencies have responded positively to the investigation's recommendations and started developing actions to increase diversity. The DfES is leading an evaluation of Adult Apprenticeship programs to identify ways of improving access to women in non-traditional training.
- *In employment*, the recommendations of the investigation won the support of key industry partners, the Confederation of British Industry (CBI) and the Trades Union Congress (TUC). They committed to raising awareness among employers that occupational segregation is not just an equality issue but also a productivity and business issue. Some activities have already been undertaken by offering guidance and toolkits to employers. A number of large employers have agreed to offer non-traditional work placements to girls and more are coming on stream. Further consultations are taking place on how to target employers to influence recruitment practices and structural arrangements in the workplace.

*At the government level*, development of a cross-government national strategy to address occupational segregation was endorsed by several key government departments. The need for an interconnected strategy continues to be highlighted, as greater impact would be achieved by sharing knowledge and resources that are currently scattered across a range of unconnected initiatives. The use of public procurement in challenging gender-based occupational segregation and the pay gap is being supported widely, but there is still some resistance within the government to using this approach.

<sup>169</sup> Equal Opportunities Commission 2006, op.cit

<sup>170</sup> Since 2007, the Equal Opportunities Commission was replaced by the Equality and Human Rights Commission

## 8. KEY CONCLUSIONS

The conclusions presented in this section are based on the review of literature carried out in the preceding sections and the author's interpretation of key findings.

*Barriers to participation of women in skilled trades are entrenched across a range of educational and labour market institutions.* Through families, schools and workplaces, men and women are conditioned to develop ideas of socially acceptable gender-based occupations. As a result, exposure of women to skilled trades careers is low and they encounter multiple barriers in training and employment. Women from several specific socio-economic backgrounds and ethnic groups face additional barriers, on top of the ones experienced by the general female population.

*Educational, recruitment and retention issues need to be addressed simultaneously through a long-term approach.* Increasing the representation of women in skilled trades employment requires that a range of barriers across the training and employment spectrum is addressed. Focusing on the supply side, i.e. training more women for skilled trades occupations, is not going to change by itself any discriminatory workplace practices that lead to attrition of trained women from employment. At the same time, employers are not likely to bother changing their workplace practices unless there are work-ready women out there who they can recruit. A majority of programs implemented to date have focused on training women, while initiatives aimed at helping employers restructure workplaces seem to have been relatively scarce.

*A broad-based partnership of all main stakeholders is key to success.* Practices and attitudes need to evolve across a number of educational and labour market institutions. A partnership approach between schools, training institutions, NGOs, employers, unions and government agencies is crucial to ensuring success on all fronts. Individual change agents cannot achieve the desired outcome in isolation from other key stakeholders. None of them has the full array of resources required to enact a comprehensive change across the entire system. Some of them, such as women's NGOs, are better positioned to provide thought leadership and tools for change, while some others, such as employers or government, have power to promote change or provide financial support. Given that the barriers are deeply ingrained across various institutions, change will not happen overnight and a sustained, long-term joint effort is required.

*Leadership commitment at the political and industry level ensures integration of gender equality considerations across the system and across different institutions.* Endorsement by the top level of leadership increases the visibility of gender equality issues in public and policy debates, broadens funding possibilities and makes implementation of concrete actions more likely. Leadership support is a crucial first step towards enacting change, but the support for initiatives needs to be secured also at the grassroots level if the initiatives are to be implemented successfully.

*Diversifying the sources of funding ensures the long-term survival of programs.* In the absence of any significant financial assistance from government budgets for programs addressing the under-representation of women in skilled trades, programs need to secure funding from various sources. The risk of program discontinuation is reduced if the donor base is well diversified. In the case of training programs, the cooperation between NGOs and colleges seems to be a particularly stable model for delivering training.

*Training for women needs to include both technical and non-technical education.* Pre-apprenticeship training activities need to equip women with outstanding hands-on and theoretical technical skills, as these are key to gaining credibility in the workplace. Non-technical training in work ethic and dealing with workplace culture is also central to the success of female graduates in the workplace.

*The delivery of training should be more flexible to cater for the needs of diverse groups of women and men.* More flexible models of delivering training are necessary to better accommodate family commitments, especially in the case of single parents or the needs of learners who are based in remote communities. Providing financial support during training is important to support learners from low-income backgrounds or those who otherwise could not afford to relocate to complete the training.

*Attitudes of a wide range of stakeholders who influence women's awareness of different career paths and their career choices need to be changed.* The idea of skilled trades as a career option suitable for women needs to be accepted by families, educators, career advisors and employers in order to encourage more women to consider careers in the trades.

*A solid business case for increasing the representation of women in the workforce needs to be marketed to employers.* A positive impact on profits is the single most important driver for employers to instigate any organisational change. Getting them to invest time and money to attract and retain women will primarily depend on whether they see it as a rational business decision.

*Initiatives aimed at employers need to focus on influencing both their recruitment methods and the workplace culture and practices that cause attrition of women, taking into account heterogeneity among employers.* The activities that help employers identify issues and work through them typically include toolkits, workshops and technical assistance. However, there is no one-size-fits-all recipe and the initiatives should be tailored to different types of employers. Depending on their size, employers have different resources at their disposal to implement change.

## 9. KEY RESEARCH GAPS

Continuing gender-sensitive research is required to support policy directions and provide insights for improving the existing initiatives. Several key gaps in the available information and practices have emerged during the research for this paper:

- Gender-disaggregated data on participation of women in the skilled trades training is inconsistent and unreliable. More robust data collection standards need to be put in place to enable tracking of enrolments and completions of apprenticeship by gender;
- Literature on employer-focused initiatives is relatively weak, compared to the analyses of barriers to women and training programs aimed at women. More research, including reviews of current and past employer-oriented initiatives, is required to understand what motivates employers to make workplaces more women friendly and, particularly, what are the effective ways of ensuring that actions get implemented;
- A more systematic approach to the evaluation of programs would help demonstrate successes and identify weaknesses. More work needs to be done to get a better understanding of what works, what does not, where the bottlenecks are and how to define and measure the success of various types of programs;
- Stronger collaboration and more knowledge sharing between different stakeholders involved in delivering various programs would be beneficial. A number of projects have been supported by governments, unions, industry, NGOs and educational institutions to date and more resources could be shared; and

- More research is necessary to uncover barriers faced by women from specific socio-economic backgrounds and to assess potential solutions.

## 10. RESOURCES IN BC AND CANADA

Various initiatives have been undertaken in BC over time to help increase participation of women in skilled trades training and employment. As a result, a good stock of knowledge has been built up in the province. Bringing the key stakeholders together to share their insights and discuss the next steps to promote women in trades in BC would be a good way of sharing the collective wisdom and potentially pooling resources together.

- Several key informants have been identified through this research, but the list is by no means exhaustive. They include: Kate Braid, Marcia Braundy, British Columbia Construction Association, BCIT, Selkirk College and the Asia Pacific Gateway Skills Table. For further details, see Appendix A.
- Some further research is necessary to identify any other stakeholders who could contribute to the dialogue on women in trades.

Many other individuals and institutions across Canada can also provide further helpful information and potentially participate in joint initiatives.

- Appendix A outlines the details of several key informants from across Canada who have participated in the research for this project.
- Several projects that are currently being implemented by organisations elsewhere in Canada could provide useful insights and resources for BC. They include the upcoming evaluation report of social return on investment for the training provided by Women Building Futures (WBF) in Alberta (due in early 2009), partnerships that WBF is establishing across central and northern Alberta to deliver training (starting 2010), the resource guide for employers by the Hypatia Association (due at the end of 2008) and the workshops and checklist for employers developed through the WinSETT initiative.

# APPENDIX A, INFORMATION SOURCES

## Key informants

**Telephone interviews were conducted with the following key informants, together with follow-up via email:**

**Valerie Overend, Sask WITT and Saskatchewan Institute of Applied Science and Technology (SIAST)**

Valerie Overend, a Red Seal carpenter, develops and teaches trades programs at SIAST. She also advises on policy related to women in trades in education and employment forums. Overend has represented tradeswomen on several provincial and pan-Canadian boards including the Canadian Apprenticeship Forum, CCWESTT and the Saskatchewan Labour Market Commission. Overend is a consultant on the current WinSETT's initiative aimed at employers.

**Carolyn Emerson, Project Coordinator, Women in Science, Engineering, Trades and Technology (WinSETT)** has contributed via joint email correspondence with Valerie Overend.

**JudyLynn Archer, Executive Director, Women Building Futures (WBF), Alberta**

WBF is widely regarded as a very successful training initiative and its capacity is still expanding.

**Kate Braid, Ruth Wynn Woodward Professor 2006-2007, Simon Fraser University**

Kate Braid has been involved in a number of initiatives over the years in BC to promote women in trades. She is also a carpenter.

**Regina Brodersen and Abigail Fulton, BC Construction Association**

Regina Brodersen and Abigail Fulton have led the STEP for W initiative at BCCA. A successful pilot was run in 2007-2008. The activities are currently smaller scale than originally envisaged due to lack of further funding, but BCCA is hoping to identify prospective donors to intensify the program.

**A face-to-face interview was carried out with Bonnie Watt-Malcolm, together with follow-up via email:**

**Dr Bonnie Watt-Malcolm**

The subject of Dr Watt-Malcolm's PhD research, which she earned from the University of Alberta, was continuing resistance to women working in the industrial sector in spite of initiatives designed to encourage the involvement of Canadian women in industrial skilled trades. Dr Watt-Malcolm also spent several years working as a tradesperson and technologist. She now works as an associate professor at the Faculty of Education, University of Alberta.

**The following key informants could not be reached:**

**Dr Marcia Braundy, BC**

Dr Braundy has written extensively on the subject of women in skilled trades over a number of years and received a PhD from the University of British Columbia in Technology Studies in Education. Dr Braundy has an extensive track record of consulting to governmental and non-governmental organisations on participation of women in non-traditional occupations. She is also a qualified tradesperson.

**Dr Sharon Mastracci**

Dr Mastracci is an associate professor at the School of Public Administration, University of Illinois, and she has conducted extensive research into effectiveness of public policy interventions to promote participation of women in highly skilled, higher wage skilled trades occupations.

#### **Equal Opportunities Commission, UK, was unable to participate in the research**

Over the past few years, the British Equal Opportunities Commission has undertaken a comprehensive review of occupational segregation in apprenticeship programs and skilled trades employment. The researchers working on these studies could provide some useful insights on key barriers and relative effectiveness of various strategic initiatives that were implemented in the UK.

#### **Further potential contacts in BC identified during the research:**

**BC Institute of Technology, Trades Discovery Program for Women.** Contact: Tamara Pongracz, Chief Instructor, School of Transportation, Tamara\_Pongracz@bcit.ca

**Selkirk College, Skilled Trades Exploratory Program for Women.** Contact: Al Walker, Chair, School of Industry and Trades Training, AWalker@selkirk.ca

#### **Asia Pacific Gateway Skills Table**

This is a recently formed not-for-profit organisation. Its mandate is to support coordinated decision-making and action related to labour shortages and skills gaps associated with the Gateway and corridor in British Columbia. The Skills Table represents a partnership between industry, employers, labour, educators and government and it is funded by Human Resources and Social Development Canada. Aaron Cruikshank, project manager, could be approached for further information, 778.908.4560, aaron@apgst.ca.

#### **A conference on apprenticeship in 2009:**

Human Resources and Social Development Canada is considering a potential apprenticeship conference in late 2009. Several guest speakers from Europe might also present at the conference. Further information can be obtained from Dr Jennifer Hunt, McGill University, jennifer.hunt@mcgill.ca.

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Grey literature and websites related to several programs and training initiatives:

Skilled Trades Employment Program for Women, BC  
<http://www.stepforwomen.com/index.html>

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